REPORT RESUMES

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A STUDY OF APPROACHES TO FIRST-GRADE ENGLISH READING
INSTRUCTION FOR CHILDREN FROM SPANISH-SPEAKING HOMES.
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COMPARISONS WERE MADE AMONG THREE APPROACHES TO DEVELOPING ENGLISH ARTS SKILLS, PARTICULARLY IN READING, WITH FIRST-GRADE CHILDREN FROM SPANISH-SPEAKING HOMES. PARTICIPATING CHILDREN WERE RANDOMLY GIVEN ONE OF THREE INSTRUCTIONAL TREATMENTS FOR ENGLISH-READING--(1) BASAL READING, (2) SECOND LANGUAGE READING, AND (3) LANGUAGE-EXPERIENCE READING. IT WAS HYPOTHESIZED THAT THERE WOULD BE NO DIFFERENCE IN THESE APPROACHES. EACH TREATMENT WAS EXPERIMENTALLY ADMINISTERED FOR 140 SCHOOL DAYS. WITH REFERENCE TO UNDERSTANDING SPOKEN ENGLISH AND TO MECHANICAL WRITING SKILLS, NO SIGNIFICANT DIFFERENCES WERE FOUND AMONG THE THREE APPROACHES. BASAL READING WAS FAVORED WITH REFERENCE TO READING READINESS SKILLS, READING VOCABULARY, WORD RECOGNITION SKILLS, ATTITUDE TOWARD READING, AND GENERAL READING ACHIEVEMENT. BOTH BASAL AND SECOND LANGUAGE READING WERE, FAVORED WITH REFERENCE TO ORAL VOCABULARY AND READING COMPREHENSION. FOR THE SKILL OF WRITING FLUENTLY, BOTH THE SECOND LANGUAGE AND LANGUAGE-EXPERIENCE APPROACHES WERE FAVORED. BECAUSE OF RESTRICTIONS PLACED UPON THE STUDY BY TEACHER AND PUPIL POPULATION VARIABLES, ONLY TENTATIVE CONCLUSIONS WERE FORMULATED. (JH)

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Cooperative Research Project No. 2734

Roy McCanne

Colorado State Department of Education

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Denver, Colorado 80203

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CHAPTER I

INTRODUCTION

I. THE PROBLEM

Teachers, school administrators, and officials of the State Department of Education in Colorado have been concerned for some time about a general low level of school achievement and high percentage of dropout among children who come from homes where Spanish is the mother tongue. It appeared that the transition from Spanish as spoken in the home to English used in the schools, and possibly certain culturally determined thinking and behavior patterns, were a source of deterrence to school achievement. It also appeared that the school curriculum and teaching methods might not be as well adapted to the needs of children from Spanish-speaking homes as was possible.

The present study was an attempt to focus upon one small aspect of the general problem of meeting the educational needs of children from Spanish-speaking homes. One purpose of the study was to compare a basal reader approach, a teaching English as a second language approach, and a language-experience approach in respect to their relative success in developing English language arts skills, particularly reading skills, with first grade children from Spanish-speaking homes. A second purpose was to obtain and organize information on a sequence of skills that are needed by children from Spanish-speaking homes who are learning to read in English, and identify appropriate materials and techniques for teaching these skills in a culturally integrated first grade classroom.

II. BACKGROUND OF THE PROBLEM

__The Population__. In a study based upon a 25 per cent sample of the 1960 census data, 3,465,000 persons of Spanish surname were enumerated in Arizona, California, Colorado, New Mexico, and Texas.[1] Table I gives the size of the Spanish surnamed population and the per cent which this number represented in the total population of the five states in the 1960 census. It may be seen from Table I that in Colorado, persons of Spanish surname made up 9.0 per cent of the total population, while in the five states together persons of Spanish surname made up 11.8 per cent of the population. However, 1960 census figures for the population of ages five to seventeen showed that persons of Spanish surname made up 12.2 per cent of the population in Colorado and 15.1 per cent of the population in the five states together, according to Manuel.[2] Thus the Spanish surnamed population was even more significant in the school than in the community, and represented a sizeable group.

Manuel[3] reported figures from earlier census data and compared them to show that the number of Spanish surnamed people was increasing in each of the five states, and that the per cent of the total population was increasing in California, Colorado, and Texas. The Spanish surnamed population was not only sizeable, it was growing, and growing

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[1] United States Bureau of the Census, __U.S. Census of Population: 1960. Subject Reports. Persons of Spanish Surname.__ Final Report PC (2)-1B (Washington, D.C.: U.S. Government Printing Office, 1963), p. ix.

[2] Herschel T. Manuel, __Spanish-Speaking Children of the Southwest, Their Education and the Public Welfare__ (Austin, Texas: University of Texas Press, 1965), p. 52.

[3] __Ibid.__, pp. 22-23.

TABLE I

SPANISH SURNAMED POPULATION AND PER CENT OF TOTAL POPULATION IN FIVE SOUTHWESTERN STATES, 1960*

STATE	POPULATION	PER CENT OF TOTAL
Arizona	194,356	14.9
California	1,426,538	9.1
Colorado	157,173	9.0
New Mexico	269,122	28.3
Texas	1,417,811	14.8
Total	3,465,000	11.8

*Based upon 1960 census figures reported by Herschel T. Manuel, Spanish-Speaking Children of the Southwest, Their Education and the Public Welfare (Austin, Texas: University of Texas Press, 1965), pp. 22-23.

faster than the general population in three of the five states.

Some information was available to aid in estimating the size of the Spanish-speaking population in comparison with the Spanish surnamed population. Manuel[4] counted 1,725 pupils whose home language was Spanish (presumably in Texas) and found that 11 per cent had non-Spanish names. On the basis of his studies and experience visiting schools and working with educators in all five states, Manuel estimated that a rough correction of about ten per cent more than the number of Spanish surnamed people should be applied to obtain the number of Spanish-speaking people in a state. However, he did not indicate any consideration of differences over time or differences between geographic locations in the relationship between the numbers of Spanish-speaking vs. Spanish surnamed people. It would appear logical to expect that over a period of time a number of Spanish surnamed people would adopt English as new families are formed, especially in urban areas at some distance from the Mexican border. It may be, also, that there was error in both directions in the census enumeration; not only were there Spanish-speaking people not counted, but there were persons counted whose names were not really Spanish. It is probably safe to say that the number of Spanish surnamed people is a rough estimate of the number of Spanish-speaking people, give or take ten per cent, in any of the five states under consideration.

Problems of the population. Valdez stated:

> The Spanish-surnamed Coloradoan constitutes nine per cent of the State's population. Statistically, he represents a disproportionate number in correctional institutions, has a high rate of juvenile delinquency,

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[4] Ibid., pp. 21-24.

> public dependency, and more significantly, in school drop-outs. He is commonly referred to as the "Spanish-American or Mexican problem" and has become the concern of every social agency.[5]

Manuel gave data supporting the contention of Valdez, above, that the people of Spanish surname represent a problem of concern to every social agency. A few examples of such data are reported in Table II. In each of the five states the Spanish surnamed people were at a disadvantage compared with the general population in respect to education and income. In many cases the disadvantage was severe.

The reports of Manuel,[6] Tireman,[7] Zintz,[8] and many others have focused upon the transition from the Spanish language spoken in the home to the English language used at school as one of the major deterrents to school achievement among Spanish-speaking children. The literature is replete with comparisons of test scores showing the Spanish-speaking child to be way behind his Anglo counterpart in reading achievement.[9]

Given a language handicap and an equal amount of schooling, it would be expected that the Spanish-speaking child would not achieve mastery of English reading skills as rapidly as the English-speaking

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[5] Bernard Valdez, The History of Spanish Americans (Denver: Colorado Department of Institutions, 1963), p. 7.

[6] Manuel, op. cit., pp. 110-129.

[7] L.S. Tireman, Teaching Spanish-Speaking Children (Albuquerque, New Mexico: University of New Mexico Press, 1951), entire book of 252 p.

[8] Miles V. Zintz, Education Across Cultures (Dubuque, Iowa: Wm. C. Brown Book Company, 1963), pp. 209-314.

[9] See Manuel, op. cit., p. 64; Tireman, op. cit., pp. 68-70; Zintz, op. cit., pp. 110-118.

TABLE II

SELECTED EDUCATIONAL AND INCOME COMPARISONS BETWEEN PERSONS OF SPANISH SURNAME AND THE TOTAL POPULATION IN FIVE SOUTHWESTERN STATES, 1958 and 1959[a]

	ARIZONA	CALIFORNIA	COLORADO	NEW MEXICO	TEXAS
Spanish surnames among:[b]					
- population	14.9	9.1	9.0	28.3	14.8
- college freshmen	6.3	5.2	2.9	17.5	5.4
High school graduates among family heads:[c]					
- total population	46.4	52.5	51.9	45.8	40.0
- Spanish surname	16.8	26.0	19.0	19.5	12.3
Median income of males fourteen and over:[d]					
- total population	$4069	$4966	$4191	$3941	$3394
- Spanish surname	2713	3849	2814	2630	2029

[a] From data presented by Herschel T. Manuel, Spanish-Speaking Children of the Southwest, Their Education and the Public Welfare (Austin, Texas: University of Texas Press, 1965), pp. 23, 47, 49, and 59.

[b] Comparison of percentage of population having Spanish surnames (1960 census) with percentage of 1958-1959 college freshmen having Spanish surnames (private survey of 146 colleges), from Manuel, Ibid., pp. 23 and 59.

[c] Percentage of heads of families having completed high school (1960 census), from Manuel, Ibid., p. 49.

[d] Median income of males aged fourteen and over employed in 12 occupational subgroups (1960 census), from Manuel, Ibid., p. 47.

child. Manuel and many others have emphasized the need for pre-school, kindergarten, and "pre-first" grade programs to help the Spanish-speaking child develop oral English skills and a broad experience background before beginning formal reading instruction in the first grade. Steps have been and are being taken by both the state and federal governments to increase provisions for pre-school and kindergarten experiences for all children.

First Grade Reading. What could be done to increase the effectiveness of first grade reading instruction? The experience of the investigator and professional literature revealed that a basal reader approach was widely used for beginning reading instruction with Spanish-speaking as well as English-speaking children, as soon as they were thought to be ready for formal reading instruction. With some modifications, such as the use of experience charts to build an initial sight vocabulary, the basal reader approach had been widely recommended for use with Spanish-speaking children. Hoard,[10] Sanchez and Otto,[11] and Tireman,[12] recommended it, among others.

On the other hand, Sizemore,[13] Zintz,[14] and others have cited serious criticisms of the use of basal reader materials designed for

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[10] Lucy Claire Hoard, Teaching English to the Spanish-Speaking Child in the Primary Grades (El Paso, Texas: El Paso Public Schools, 1936), entire book of 108 p.

[11] George I. Sanchez and Henry J. Otto, A Guide for Teachers of Spanish-Speaking Children in the Primary Grades (Texas State Department of Education, 1946), pp. 31-43 and 62-98.

[12] Tireman, op. cit., pp. 75-108.

[13] Mamie Sizemore, ed., Teaching Reading to the Bilingual Child (Phoenix: Arizona State Department of Public Instruction, 1963), pp. 11-13.

[14] Zintz, op. cit., pp. 233 and 303.

English-speaking children when they were used for Spanish-speaking children. The vocabulary load of each book was more difficult for the Spanish-speaking child; the phonological structure and grammatical structure of English words and sentences needed more attention for Spanish-speaking children; and the pictures, concepts, characters, plots, motivational devices, and exercises used in basal reader series typically assumed a middle class Anglo experience background and cultural value system, which didn't fit the Spanish-speaking child in important respects.

Bumpass[15] described in detail a method of teaching reading and writing skills after a careful aural-oral build up of the words and sentence patterns to be taught. The pupil books by Bumpass[16] could be used for teaching beginning reading at the first grade level. From a logical standpoint it appeared that the aural-oral pattern practice approach to reading described by Bumpass would have particular advantages where the basal reader approach had weaknesses in developing an understanding and habitual use of the correct phonological and grammatical structures of English.

Lee and Allen[17] described in detail a language-experience approach for beginning reading instruction, which appeared to have particular advantages where the basal reader had weaknesses in respect to the meanings of words and in respect to the experience background and cultural values of the Spanish-speaking child. The Superintendent of the San Diego County Schools reported a study in which a language-experience approach was tried with 16 teachers of grades one to six during the 1959-60 school year.[18] While no formal comparison of achievement scores was reported between this approach and the two others that were tried (a basal reader approach and an individualized approach), the indications were that a language-experience approach could be used successfully to teach reading skills. The study was not done with Spanish-speaking children, but it appeared that certain modifications of the approach would make it suitable for Spanish-speaking children.

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[15] Faye L. Bumpass, Teaching Young Students English as a Foreign Language (New York: American Book Company, 1963), entire book of 198 p.

[16] Faye L. Bumpass, We Learn English Series (New York: American Book Company, 1958).

[17] Doris M. Lee and R.V. Allen, Learning to Read Through Experience (New York: Appleton-Century-Crofts, 1963), entire book of 146 p.

Thus the stage was set for a comparison of a basal reader approach, an aural-oral "teaching English as a second language" approach, and a language-experience approach, each with certain modifications to make it as suitable as possible for teaching first grade reading skills to Spanish-speaking children. Ching described approximately what the present study purported to be:

> Thus, we see that several different methods have been tried with bilinguals in the United States. There is a need now for carefully controlled experimental studies using each of the different methods or combinations of methods to appraise the effectiveness of each with bilingual children. In these studies there should be valid pre-test and post-test measurements of ability and achievement, followed by rigorous and searching statistical analyses of the data. There should also be adequate measurements and descriptions of bilingualism present in the children studied and specific definitions and descriptions of the methods of teaching used to improve the bilingual children's language and reading, as well as the progress, if any, shown by the bilinguals as a result of such methods being used.[19]

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[18] Improving Reading Instruction, Monograph No. 1, Report of the Reading Study Project (San Diego, California: San Diego County Superintendent of Schools, 1961), 45p.

[19] Doris C. Ching, "Methods for the Bilingual Child," Elementary English, XLII (January, 1965), 17.

CHAPTER II

OBJECTIVES, ASSUMPTIONS, DELIMITATIONS, AND DEFINITIONS

I. OBJECTIVES

The following objectives were stated in the original proposal for the study:

(1) To test the hypothesis that there is no difference in achievement in reading English in first grade between pupils who speak Spanish at home and are taught by a conventional English readiness and basal reader approach, such pupils who are taught by a modified teaching English as a second language approach, and such pupils who are taught by a language-experience approach.

(2) To provide and organize data to aid in determining a specific sequence of skills that is appropriate for first grade children from Spanish-speaking homes who are learning to read in English, and to identify appropriate materials and techniques for teaching these skills in a culturally integrated first grade classroom.

Specific hypotheses relating to designated reading skills were not set up at the start of the study. Instead, a number of instruments for measuring reading achievement were used at the conclusion of the experimental teaching period, and factor analyses and intercorrelations were obtained on the scores in order to set up specific hypotheses with some assurance of validity in measurement. The specific hypotheses which were tested may be found in Chapter V, which gives the results of the study.

II. ASSUMPTIONS

(1) It was assumed that the differences in cultural characteristics between the Spanish-American cultural group whose recent ancestry was traced to New Mexico, and the Mexican-American cultural

group whose recent ancestry was traced to Mexico, would not affect first grade reading instruction.

(2) It was assumed that characteristics of the population such as variations in intelligence, variations in ability to learn English, and variations in reading readiness in English were distributed in the Spanish-speaking people of the United States Southwest according to the requirements of the normal probability curve upon which parametric statistical theory is based.

III. DELIMITATIONS

The study was limited to children from Spanish-speaking homes in Colorado public schools, whose parents were United States citizens, and who were placed in integrated first grade classrooms with English-speaking children.

The teacher performance expected in each of the experimental approaches was limited to that which could be expected of a good teacher after a short training session and with supervision of a type which could reasonably be put into practice on a wide scale. This was not intended to be a laboratory study. The outcomes were required to be usable on a wide scale with reasonable economic efficiency.

It was recognized that in a study of the type described here it is impossible to separate an experimental approach from the materials and techniques used to represent it. Consequently the conclusions of the study were limited to the actual materials and techniques used.

IV. DEFINITIONS

Acculturation. Acculturation is the process of becoming adapted to cultural patterns.

Anglo. An Anglo is a person who generally conforms to the majority culture of the United States in those respects in which the majority culture differs from the cultures of Spanish-speaking people in the United States Southwest.

Approach. An approach is a way of organizing the activities and content of instruction. The term "approach" was used because one of the experimental approaches is commonly referred to as the "language-experience approach." The term "method" has frequently been used in the literature to mean the same thing as "approach" used here.

Basal reader, or "BR" approach. The BR approach is an approach using specially written graded books of stories plus exercise books and other teaching aids for sequential instruction in reading skills. The focus of attention is upon graded materials prepared by experts for teaching reading skills. In this study, the basal reader approach was modified to meet special needs of children from Spanish-speaking homes.

Culture. Culture is "the concepts, habits, skills, arts, instruments, institutions, etc. of a given people in a given period."[1]

Language-experience approach, or "LEA." The LEA is an approach using stories dictated or written by the learners for instruction in all language arts skills, including reading. The focus of attention is upon the pupils' own expression guided by the teacher, and upon all language arts in integration rather than reading skills alone. The LEA used in this study was modified to meet special needs of children from Spanish-speaking homes.

Reading. Reading is the act of perceiving and reacting to ideas expressed as written language.

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[1] Webster's New World Dictionary of the American Language, College Edition (New York: The World Publishing Company, 1957), p. 359.

Reading readiness. Reading readiness is a category of physical, intellectual, emotional, and social skills in which a certain degree of proficiency is needed for optimum success in developing reading skills.

Spanish-speaking. A Spanish-speaking person as defined for this study is one who ordinarily speaks Spanish more than any other language in the home. It is recognized that the type of Spanish spoken might not be "standard" or "literary" Spanish. However, the basic structure of the language ordinarily spoken in the home is the phonological and grammatical structure originated in Spain.

Spanish surname. A Spanish surname is a family name identical to any of those on a list of approximately 7,000 names used by the Bureau of the Census to enumerate persons of Spanish surname.[2]

Teaching English as a second language, or "TESL" approach. The TESL approach is an approach using aural and oral pattern practice on words, phrases, and sentences in a sequence designed by experts for teaching English to people who do not speak English. The focus of attention is upon materials prepared by experts for teaching, listening, and speaking skills, with extensions to reading and writing skills taught with the words, phrases, and sentences previously practiced orally. The TESL approach used in this study was modified to fit into an English-speaking school environment.

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[2] United States Bureau of the Census, U.S. Census of Population: 1960. Subject Reports. Persons of Spanish Surname. Final Report PC (2)-1B (Washington, D.C.: U.S. Government Printing Office, 1963), p. viii.

CHAPTER III

REVIEW OF LITERATURE

A great deal has been written about the education of the Spanish-speaking child in the United States. This chapter presents a brief review of representative major works under the following topics: (1) cultural characteristics of the population, (2) linguistic problems involved in the transition from Spanish to English, and (3) teaching reading to the Spanish-speaking child. A summary follows each section, and an overall summary is provided at the end of the chapter. Literature concerning the measuring instruments and statistical techniques used in the study is reviewed briefly in Chapter IV in conjunction with the descriptions of the instruments and statistical techniques.

I. CULTURAL CHARACTERISTICS OF THE POPULATION

This section of the chapter presents a review of major works concerning the cultural characteristics of Spanish-speaking people in the United States Southwest. A consideration of such a topic was considered necessary because reading achievement, or the lack of it, seemed to be highly influenced by the culture.

Evidence concerning two cultural characteristics, relative poverty and a relative lack of education, was presented in Chapter I and is not repeated here. The section is divided into the following sub-topics: (1) the need for cultural understanding by teachers, (2) a brief history of the two major cultural groups, (3) general cultural characteristics of Spanish-speaking people of the United States Southwest which differ from the cultural characteristics of Anglo-Americans, and (4) the implications of the cultural characteristics for instruction.

The Need for Cultural Understanding by Teachers

Dinkmeyer and Dreikurs[1] pointed out the importance that a teacher should place upon understanding the background, behavior patterns, and purposes of the pupils. These writers emphasized three points of relevance here: (1) that children react not to a situation, but to their appraisal of the situation; (2) that the teacher needs to observe more than what the child does or does not do; she must also observe the child's purposes or goals; and (3) that behavior is more than just a response to a stimulus; it is a creative act; it is a child seeking a place for himself.

Montagu described the "quest for self" of a child and the influence a teacher may have upon it:

> Selves are not born but made and they are made according to the pattern prevailing in the culture or particular segments thereof. . . (In) the quest for self it is the teacher's personal influence that will count as much as and in a large number of cases more than anyone else's in helping the individual realize and fulfill himself.[2]

The teacher, then may well have a profound influence upon the child's personality and motivation for learning.

Experts in the field of teaching Spanish-speaking children, people who have devoted years to study, writing, and action projects for the benefit of the Spanish-speaking population of the United States, confirm the importance of an understanding of the culture on the part of the teacher. Manuel,[3] Tireman,[4] and Zintz[5] have made this point. Sanchez made a plea that the problems of Spanish-speaking children be considered as more than simply a bilingual problem:

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[1] Don Dinkmeyer and Rudolf Dreikurs, Encouraging Children to Learn (Englewood Cliffs, New Jersey: Prentice Hall, 1963), pp. 45-46.

[2] Ashley Montagu, "Quest for Self," Childhood Education, XLI (September, 1964), 3-8.

> Too often the problem presented by these people today is regarded simply as a "bi-lingual" problem--one wherein language differences are of primary importance. It is much more than that. The problem is one of culture contacts and conflicts--one wherein traditional cultural and geographic isolation accentuate the normal problems presented by incorporation and aggravate the deficiencies of an undeveloped economy and of a frontier social structure.[6]

The need for an understanding of the culture was stated by Madsen when he described a home visit by a teacher, as told to him by a parent:

> She burst in here like a rooster without even waiting for an invitation. Then, she started telling me what to do. This is my home and I will decide what is done here. And she tried to tell me not to speak the language of my forefathers. She does not understand nor does she want to. My children go to school to learn but they are merely taught not to respect their parents. It is an evil thing. I no longer blame my children for not liking the school.[7]

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[3] Herschel T. Manuel, Spanish-Speaking Children of the Southwest, Their Education and the Public Welfare (Austin: University of Texas Press, 1965), p. 157.

[4] L.S. Tireman, Teaching Spanish-Speaking Children (Albuquerque: University of New Mexico Press, 1951), p. 78.

[5] Miles V. Zintz, Education Across Cultures (Dubuque, Iowa: Wm. C. Brown Book Company, 1963), p. 82.

[6] George I. Sanchez, Forgotten People, A Study of New Mexicans (Albuquerque: University of New Mexico Press, 1940), pp. 37-38.

[7] William Madsen, The Mexican-Americans of South Texas (New York: Holt, Rinehart and Winston, 1964), p. 107.

A Brief History of the Two Major Cultural Groups

Saunders[8] recognized three major groups of Spanish-speaking people in the United States Southwest: the New Mexican culture group called "Spanish-Americans" by Saunders, the Mexican immigrant group he called "Mexican-Americans," and temporary, recent Mexican immigrants who intended to return to Mexico, who he called "Mexicans." The third group, Mexicans, was not considered in the present study because few children of this group could be found in Colorado.

According to Saunders, the Spanish-American group were descendents of colonists who came up the Middle and Upper Rio Grande valleys between the explorations of Juan de Onate in 1598 and the Indian uprising of 1680, and again after the reconquest by Diego de Vargas in 1692. They settled in what is now New Mexico, intermarried with local Indian tribes, and lived with ancient ways and the old Spanish language in isolated rural villages.

Lopez[9] pointed out that "except for the American Indian, the New Mexican of 1850 was the only resident of the United States who did not wish to be one." Tireman[10] noted that the New Mexicans of the nineteenth century were not at all in a position to accept the changes in law, taxes, the social system, politics, and language that came about when the territory was annexed from Mexico by the United States in 1848.

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[8] Lyle Saunders, Cultural Difference and Medical Care; The Case of the Spanish-Speaking People of the Southwest (New York: Russell Sage Foundation, 1954), Chapter II.

[9] Lino M. Lopez, "Spanish-Americans in Colorado," America, XCI (September 18, 1954).

[10] L.S. Tireman and Mary Watson, A Community School in a Spanish-Speaking Village (Albuquerque: University of New Mexico Press, 1948), p. 16.

Nor did the United States Government provide sufficient understanding or resources to aid the Spanish-American people in a transition to the United States way of life. The result has been a resistance to cultural change and adaptation by Spanish-Americans. However, influenced eventually by overpopulation, world wars, improvements in transportation and communication, the growth of urban areas and other factors, the Spanish-Americans of New Mexico began to spread out into Colorado and other parts of the Southwest, and to begin the process of adaptation.

In contrast to the Spanish-American group, the Mexican-Americans all made a decision to leave their native land and seek opportunity in the United States. Manuel[11] presented a table of immigration to the United States from Mexico which showed that the chief periods of immigration were from 1911 to 1930 and from 1951 to 1960. The culture of the Mexican immigrant group was described in an understandable and detailed book by Madsen.[12]

Saunders[13] noted that Mexican-Americans were culturally similar to Spanish-Americans except that Mexican-American physical characteristics were more Indian than those of Spanish-Americans, Mexican-Americans had made a decision to leave their native land, had fewer ties with the history of local communities, and were more widely dispersed throughout the Southwest, although tending to live near border areas.

Information on the cultures of Mexico was given by Beals and Humphrey.[14] A comparison of this information with that presented by

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[11] Manuel, op. cit., p. 18.

[12] Madsen, op. cit., entire book.

[13] Saunders, loc. cit.

[14] Ralph L. Beals and Norman D. Humphrey, No Frontier to Learning; The Mexican Student in the United States. (Minneapolis: University of Minnesota Press, 1957), pp. 16-26.

Burma[15] on the Filipino Americans of the west coast and the Puerto Ricans in New York City would suggest that both the Spanish-American group and the Mexican-American group were more closely allied with the culture of Mexico than with the cultures of other Spanish-speaking groups in the United States. It appeared that caution should be exercised in generalizing from the two major Southwestern groups to other groups of Spanish-speaking people in the United States.

Cultural Characteristics of Southwestern Spanish-speaking People

Aside from the differences noted in the previous section of this chapter, the cultural value systems of Spanish-Americans and Mexican-Americans appeared to be much alike as they were presented by Burma,[16] Saunders,[17] and others who described both groups. Tireman[18] noted historical and subtle differences between Spanish-Americans and Mexican-Americans, but he discussed practical programs for schools as if there were no difference. Consequently an assumption was made for the present study that what differences there were between the two groups would not affect first grade reading instruction (noted in Chapter I).

An analysis of the Spanish-American culture was done by Kluckhohn as part of her study of the town of Atrisco, New Mexico, from

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[15] John H. Burma, Spanish-Speaking Groups in the United States (London: Duke University Press, 1954), Chapters V and VI.

[16] Ibid., Chapters I, II, and III.

[17] Saunders, loc. cit.

[18] Tireman, op. cit., pp. 14-15.

1936 until 1958.[19] Kluckhohn assumed that there are a limited number of common human problems for which all peoples at all times must find some solution. She identified six such common human problems, but found research on two of them (human nature and space orientations) to be beyond the scope of the knowledge and resources available for her study. A research instrument was developed to provide rank orderings on four value orientations, using interview and other techniques. The four value orientations studied were: (1) a relational orientation concerning the modality of man's relationship to other men, (2) a time orientation concerning the temporal focus of human life, (3) a man-nature orientation concerning the relation of man to nature and supernature, and (4) an activity orientation concerning the modality of human activity. Applying the research instrument to the Spanish-American community of Atrisco in 1951, Kluckhohn found the following rankings in the four areas of value orientation:

Relational orientation: "Individualistic" over "lineal" over "collateral."

Time orientation: "present" over "future" over "past."

Man-nature orientation: "subjugated" over "over" over "with."

Activity orientation: "being" over "doing."

These rankings were compared with Kluckhohn's estimated rankings for 1936 when she first came to know the community. In first order rankings only the relational orientation had changed, from "lineal" to

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[19] Florence Rockwood Kluckhohn, "The Spanish-Americans of Atrisco," Chapter VI in Florence Rockwood Kluckhohn and Fred L. Strodtbeck, Variations in Value Orientations (Evanston, Illinois: Row Peterson and Company, 1961), pp. 175-257.

"individualistic." Kluckhohn's description of what had happened to the community plus her results in the use of the research instrument showed that only very slow changes toward the dominant Anglo pattern ("individualistic," "future," "over" and "doing" as represented by the results of both a Texan and a Mormon community) had taken place over the 15 year period. She concluded:

> The as yet quite slight shift away from the Being to the Doing alternative of the _activity_ orientation is probably the most significant of the reasons for the prediction that the internalization of American middle class values will be a slow process and one which will be highly subject to conditions which are relatively external to the Spanish-American group.[20]

Other descriptions of the cultural value system of Spanish-Americans as it differs from the middle-class Anglo were given by Burma,[21] Caplan and Ruble,[22] Lopez,[23] Madsen (for Mexican-Americans),[24] Manuel,[25] Sanchez,[26] Saunders,[27] Valdez,[28] and Zintz.[29] In general, it appeared that the major points of difference between the middle-class Anglo value system and the Spanish-American folk value system could be listed in succinct fashion. An attempt was made to list the differences in Figure 1 on the following page. The variable or relationship is indicated in the first column, the Anglo characteristic in the second column, and the Spanish-American characteristic in the third column, using information obtained from Zintz.[30] The differences represented in Figure 1 are oversimplified, and represent somewhat extreme positions which may not be true of any particular people at a particular time. It may be noted that Kluckhohn's analysis agreed with variables two, three, and four in Figure 1, but not with variable fourteen. Kluckhohn found that the relational orientation in Atrisco had shifted from the "lineal" position, characterized by obedience to God, elders, superiors, etc. as expressed in Figure 1, to an individualistic position somewhat similar to the Anglo value in Figure 1.

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[20] _Ibid._, p. 256.

[21] Burma, _op. cit._, Chapter I.

[22] Stanley W. Caplan and Ronald A. Ruble, "A Study of Culturally Imposed Factors on School Achievement in a Metropolitan Area," _The Journal of Educational Research_, LVIII (September, 1964), 16-21.

[23] Lopez, _loc. cit._

[24] Madsen, _loc. cit._

[25] Manuel, _op. cit._, Chapter 4, pp. 31-44.

[26] Sanchez, _op. cit._, Chapter III.

[27] Saunders, _op. cit._, Chapters II and III.

[28] Bernard Valdez, "Contrasts Between Spanish-Folk and Anglo-Urban Cultural Values" (Denver: Colorado Department of Institutions, 1963), pp. 1-6, (Mimeographed.)

[29] Zintz, _op. cit._, pp. 200-203.

Burma[31] and others emphasized the greater importance of the family as the main social and economic unit in the Spanish-American society, as compared with the Anglo. This appeared to be an important point for teachers. Also noteworthy for teachers was a point made by Valdez, that the Spanish-American consistently placed his future in the hands of God, rather than his own efforts or programs of improvement such as education.[32]

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[30] Zintz, op. cit., pp. 200-202.

[31] Burma, op. cit., p. 31.

[32] Bernard Valdez, "Implications of Cultural Values to Education," (Denver: Colorado Department of Institutions, 1963), p. 2. (Mimeographed.)

VARIABLE	ANGLO	SPANISH-AMERICAN
1. Language	English	Spanish
2. Man vs. nature	Mastery by man	Mastery by nature
3. Time orientation	Future	Present
4. Status and prestige	From "doing"	From "being"
5. Perspective	Universalistic	Particularistic
6. Response to people	Neutral, objective	Emotional, subjective
7. Level of aspiration	"Success"	Meet current needs
8. Orientation towards work	Value in itself	Work only as needed for other goals
9. Accumulation of wealth	Save	Share
10. Scheduling	By the clock	Usually unimportant
11. Acceptance of change	Change is good	Old ways sufficient
12. Explanation of events	Scientific	Non-scientific
13. Competitive behavior	Aggressive	Humble, submissive
14. Acceptance of authority	Individualistic	Obedience to God, elders, superiors

Figure 1. Major differences between the middle class Anglo and Spanish-American folk value systems. Adapted from Miles V. Zintz, Education Across Cultures (Dubuque, Iowa: Wm. C. Brown Book Company, 1963), pp. 200-202.

It must be noted that the Spanish-American cultural value system described here is seldom found in pure form today. Saunders[33] noted four factors that have worked to promote acculturation or assimilation into the Anglo culture: population size, urbanization, mobility, and education. Saunders presented hypothetical distribution curves showing the relative importance of Anglo and Spanish-American or Mexican cultural traits among urban and rural populations, with the urban being considerably ahead of the rural in adopting Anglo patterns.[34]

Nevertheless, many public programs which did not take into account the cultural value system of the Spanish-American have experienced failure, at least partly because they did not take the culture into account. Examples included the Taos County Cooperative Health Association in New Mexico and the Costilla County Health Association in Colorado, which went out of existence through lack of local support.[35] Tireman and Watson[36] felt that the public schools were among the agencies whose programs have failed because the local culture was not considered. Certainly the statistics on educational achievement quoted in Table II in Chapter I, and the many references in the literature to overageness and inferior achievement by Spanish-American children in school have born out the point that the Spanish-American child is not like his Anglo counterpart, and the school has not yet adapted fully to the needs of the Spanish-American child. In 1964 Caplan and Ruble reported on a study of culturally imposed factors on school achievement in which it was found that even in an urban junior high school in Albuquerque:

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[33] Saunders, _op_. _cit_., pp. 93-98.

[34] _Ibid_., p. 207.

[35] _Ibid_., pp. 175-189.

[36] Tireman and Watson, _op_. _cit_., p. 17.

> . . . bilingual students demonstrate that the values held in the home are different from those held by the community as a whole . . . bilingual students have not been encouraged by the home to value certain personality characteristics which contribute to school achievement . . . bilingual students are culturally different from other, monolingual students.[37]

Implications for Instruction

Christian, in discussing the acculturation of the bilingual child, noted:

> The meanings which have been given to him in one culture do not exist in other cultures, and therefore cannot be replaced. It is a fallacy, for example, to assume that there is an English equivalent for the Spanish word *mamá*--or that there is a Spanish equivalent for the English word *mama*.[38]

The reference here was not to a linguistic difficulty but to a cultural one: the role of the mother in the home is much different in the two cultures. Many similar examples of potential misunderstanding between pupil and teacher could be cited. Lado[39] and Saunders[40] noted examples of potential misunderstanding, such as the explanation for missing the school bus: "The bus left me," which is perfectly natural in the Spanish-American culture.

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[37] Caplan and Ruble, *op. cit.*, p. 21.

[38] Chester C. Christian, Jr., "The Acculturation of the Bilingual Child," *Modern Language Journal*, Vol. 49 (March, 1965), p. 160.

[39] Robert Lado, *Linguistics Across Cultures* (Ann Arbor: The University of Michigan Press, 1957), pp. 115-117.

[40] Saunders, *op. cit.*, pp. 111-117.

Perhaps there is a two-fold implication in what Christian, Lado, Saunders, and others have said. The teacher should take great care to understand the cultural implications of what the child says, so that she will know who and what he is, and know how to communicate with him. But in addition, the teacher must help the child to understand the cultural implications of what he hears and what he reads. Montagu stated: "Learning is the continuous adventure of thinking analytically, critically and independently for oneself, continually questioning basic principles and what is taken for granted or held axiomatic."[41] Yet many of these qualities of thinking: analysis, critical and independent thinking, questioning basic principles, etc., appear to be directly opposed by some of the cultural values of the Spanish-American as noted in Figure 1: particularistic perspective, subjectivity, rejection of change, non-scientific explanations of events, submissiveness, and obedience to elders and superiors. Where the child has been brought up and has learned to think in terms of the Spanish-American cultural values described here, the teacher may find it a very large task to teach the child how to learn, in Montagu's terms.

Although many of the implications of the foregoing discussion go beyond the scope of the present study, one relevant implication would seem to be that the teacher should lose no opportunity to promote penetrating discussions into the meanings of words, the motives of characters in stories, the assumptions made in stories about the nature of the world, etc.

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[41] Montagu, loc. cit.

Another area of implication for instruction is the techniques teachers can use to motivate children to read. In the primary grades, motivating Spanish-American children is probably deceptively easy. The strong family ties and reliance upon the family for emotional security often produce children with delightful personalities who are more emotionally secure at the school entrance age than many children. Madsen noted:

> The family is a sanctuary in a hostile world full of envy and greed . . . Any Latin boy with a brother knows he need never stand alone in a fight. As long as one member of the family has a house and food, none of his close relatives will lack shelter or meals. Looking back on his early family life, an educated Latin recalled, "Our home was like a mighty rock in a stormy sea. It was fun to swim and fight the waves. It was also fun to return to the rock. It was a remarkable rock. It could even reach out and pluck you from the sea as you were going down."[42]

Many writers have noted the apparent "docility" of Spanish-Americans. Saunders noted a greater readiness toward acceptance and resignation than Anglos.[43] As a consequence, teachers, especially in the primary grades, may think they have done a good job of motivating the children when in actuality the children are simply naturally pleasant and do what they are told. If the teacher expects them to like high marks, stars on the bulletin board, etc., they are willing to like them for her sake. McCanne[44] pointed out that reliance on marks, stars, and other competitive motivational devices may be disastrous if the child in later grades finds that he cannot compete successfully. It would be better, McCanne thought, to motivate the child by showing him what he has accomplished in relation to the learning task, rather than in relation to the other children. In view of the Spanish-American child's expectance of an emotional reaction from teachers, rather than a neutral or objective reaction as tolerated by Anglo children, it might be better to avoid all reference to approval or disapproval of the child's work, such as the smiles and frowns currently used by many primary grade teachers. In place of the threat of disapproval as a motivational device, lists of specific tasks (such as vocabulary words, phonics rules, comprehension skills, etc. to be learned) could be checked off as the specific tasks were accomplished.

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[42] Madsen, op. cit., p. 44.

[43] Saunders, op. cit., p. 128.

[44] Roy McCanne, "$90 Worth of Stars," Colorado School Journal, LXXIX (March, 1964), 17-18.

Valdez discussed the motivation of Spanish-American children from the standpoint of home preparation, and found it wanting:

> While Juanito's parents will have a sense of self-satisfaction in that their child is attending school, their responsibility will end there. Juanito will face his problems of adjustment alone. The papers and report cards which he brings home will not elicit much comment from his parents. Juanito attends school because the law and the dominant culture demands that he must. Learning and the goals of education have very little meaning for Juanito.[45]

Valdez,[46] Manuel,[47] and others have pointed to the paucity of speaking and reading in English in the home as additional factors affecting both the child's motivation to learn to read and the opportunities for practice at home. It would appear that the teacher must strive to help the child develop a system of motivation which can stand the test of time and adversity, and which can stand it alone.

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[45] Bernard Valdez, "Implications of Cultural Values to Education" (Denver: Colorado Department of Institutions, 1963), p. 4. (Mimeographed.)

[46] Ibid., p. 3.

[47] Manuel, op. cit., pp. 73-81.

Several writers have described very disruptive results from the process of transition from the Spanish-American folk culture to the Anglo middle class (or lower class) urban culture when the process was not guided with penetrating understanding. Valdez[48] described many points at which the process could lead to disaster. Teachers are part of the process, whether for the benefit or the detriment of the family.

Teachers can probably be of benefit by developing a genuine appreciation of the finer points of the Spanish-American culture. Burma stated it thus:

> How serious this cultural change will be is a moot question. Some Americans will say that such cultural islands are predestined to be swallowed up in our competitive economy, that assimilation is inevitable, and the sooner the better. Such a view, though partially valid, assumes that the larger culture is in every particular better than the minority culture, a situation which seldom if ever exists. In fact, the Hispano culture offers many of the things in which our own culture is so deficient. For three centuries Hispanos have withstood drought and flood, tilled the land faithfully, and maintained their sense of community solidarity. They have a staying power we can ill afford to throw away. This interacting efficient family structure is far superior in stability to our own divorce-ridden one. Their filial respect, love of home and family, and fortitude in the face of adversity all fit the American ideal. California and Texas, among other states, could benefit largely from the racial and ethnic tolerance found among Hispanos . . . Here a real social consciousness, even if limited in scope, shines out to the larger individualistic society.[49]

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[48] Bernard Valdez, "Contrasts Between Spanish-Folk and Anglo-Urban Cultural Values" (Denver: Colorado Department of Institutions, 1963), pp. 4-6. (Mimeographed.)

[49] Burma, _op_. _cit_., p. 32.

Summary

In this section of the chapter, literature on the cultural characteristics of the Spanish-speaking population of the United States Southwest was reviewed, and certain implications for instruction were drawn. It was shown that many writers noted the importance of an understanding of the child's culture by the teacher. A brief history of the Spanish-American and Mexican-American groups was drawn from the literature, and certain cultural characteristics of both groups were noted. The cultural characteristics of both groups were found in the literature to be similar enough for the assumption to be made that the differences between them would not affect first grade reading instruction. A figure was presented showing the major differences between the middle class Anglo and Spanish-American folk value systems. It was noted from the literature that forces have been at work to change the traditional values of Spanish-Americans, but that failure to take the traditional values into account has led to the failure of some public programs. Several implications for instruction were pointed out, including the need for teachers to take care in understanding the cultural implications of what the child says, the need for helping the child to understand the cultural implications of what he hears and reads, the need for helping the child develop a motivation system which is not dependent upon successful competition or on support from the home, and the importance of an appreciation of the finer points of the Spanish-American culture.

II. LINGUISTIC PROBLEMS

This section of Chapter III presents a review of literature pertaining to the linguistic problems encountered by Spanish-speaking children learning to read in English. At the outset certain delimitations are in order. Widely discussed and disputed in recent literature has been the question of whether or not bilingualism has a beneficial or detrimental effect on the intelligence of the child. The appropriate age level for beginning instruction in a second language, and the relative merits of teaching literacy in Spanish prior to literacy in English have also received much attention in the literature. These topics were considered to be not relevant to the present study. The situation leading to the present study was that there are Spanish-speaking first grade children in our schools, and it is necessary to teach them to read in English, regardless of their intelligence, degree of bilingualism, etc.

Four sub-topics were considered relevant concerning the linguistic problems encountered by Spanish-speaking children learning English reading: (1) problems of language learning in general, (2) problems of learning a second language, (3) problems specific to the transition from Spanish to English, and (4) implications for teaching.

Language Learning in General

Language is: "the expression or communication of thoughts and feelings by means of vocal sounds, and combinations of such sounds to which meaning is attributed."[50] To know a language is "to be able to use its structure accurately for communication at will, with attention focused on the content, recalling automatically the units and patterns as needed, and holding them for a normal memory span at conversational speed, noticing any errors that occur."[51]

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[50] Webster's New World Dictionary of the American Language, College Edition (New York: The World Publishing Company, 1957), p. 821.

[51] Robert Lado, "Language Teaching, A Scientific Attitude," PEALS, V (April, 1965), 2.

It would appear that Brooks has stated most of what is important to know about language about as concisely as can be done:

> Certain generalizations that take into account the present state of our knowledge can now be made. Language is not only universal but universally adequate to the conduct of human life; no language has been discovered that is less systematic or less fluent than any other. The earliest speech is learned as verbal play rather than as a means of satisfying physical or social needs. Infants learn the knack of language through the reinforcement of their own behavior by those around them rather than by imitation. Everywhere the child of five is thoroughly familiar with the structure of his mother tongue. The usual response to words is to the conception of the things they stand for, not to things themselves. When language is in action, grammar performs at an unconscious level; grammar is difficult to learn consciously and if thus learned is equally difficult to forget when language is put to actual use. Despite auxiliary help from gesture, pictures, and writing, language is and remains a phenomenon of sound. Language cannot be equated with communication. These two are partners in an enterprise of great extent and importance, yet it is a mistake to consider them synonymous. Communication can take place perfectly well without language, and language, both in origin and function, goes far beyond the limits of communication. Men have much in common with animals; food, shelter, family life, mating, birth, play, combat, disease, and the will to live are as important to animals as to us. This is not true of language. The use of verbal symbols is exclusively human. No animal has ever learned to speak in the human sense of the word. Man and language are inseparable, and life without language is nonhuman.[52]

At a later point in his book, Language and Language Learning, Brooks noted an important characteristic of language learning for the present study: "The single paramount fact about language learning is that it concerns, not problem solving, but the formation and performance of habits."[53] This "fact" has been accepted as basic by linguists. Deductions from it, and from the generalization stated above that language is a phenomenon of sound, have given rise to the aural-oral pattern practice approach to second language teaching.

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[52] Nelson Brooks, Language and Language Learning (New York: Harcourt, Brace and Company, 1960), pp. viii-ix.

[53] Ibid., pp. 46-47.

Learning a Second Language

Psycholinguists have pointed out that learning a second language is not the same thing as learning the mother tongue. Hakes noted:

> There is simply too much evidence that interference and negative transfer are inevitable for the bilingual to a far greater extent than for the monolingual. In addition, of course, there is the obvious point that the bilingual has more to learn, phonemically, semantically and grammatically than the monolingual.[54]

Fries elaborated on the point:

> A child in learning his native language has learned not only to attend to (receptively and productively) the particular contrasts that function as signals in that language; he has learned to ignore all those features that do not so function. He has developed a special set of "blind spots" that prevent him from responding to features that do not constitute the contrastive signals of his native language. Learning a second language, therefore, constitutes a very different task from learning the first language. The basic problems arise not out of any essential difficulty in the features of the new language themselves but primarily out of the special "set" created by the first language habits.[55]

Applying this line of reasoning to the learning of English as a second language, Cornelius noted:

> (1) The student will tend to use the sounds of his native language instead of reproducing the new sounds of English.
>
> (2) The student will tend to use the word sequence, sentence structure, and all speech habits of his native language instead of the new speech habits of English.
>
> (3) The student will tend to carry into English the cultural concepts of his own native language . . .
>
> (4) The student will have the tendency to "expect" the

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[54] David T. Hakes, "Psychological Aspects of Bilingualism," Modern Language Journal, XLIX (April, 1965), 227.

[55] Charles C. Fries, "Foreword" in Robert Lado, Linguistics Across Cultures (Ann Arbor: The University of Michigan Press, 1957), not paged.

> very familiar features of his language to be found in the new language, English. He will want to know "how to say" the words of his own language in English words. In this way he will presume that "his way of saying things" must also be "the way of saying things in English."[56]

If this is the case, then the materials and techniques used to teach English as a second language would depend on the particular language which was the mother tongue. Materials and techniques used for teaching English to Spanish-speakers might have to be quite different from those used to teach English to speakers of languages other than Spanish. This, according to Fries, is exactly the case: "The most effective materials are those that are based upon a scientific description of the language to be learned, carefully compared with a parallel description of the native language of the learner."[57]

Just what is meant by a "scientific description" of a language? Lado, Dean of the Institute of Languages and Linguistics at Georgetown University, has written an authoritative book on just how to describe and compare two languages.[58] He used Spanish and English for most of the examples in the book. Separate chapters were devoted to "How to Compare Two Sound Systems," "How to Compare Two Grammatical Structures," "How to Compare Two Vocabulary Systems," "How to Compare Two Writing Systems," and "How to Compare Two Cultures." One noteworthy feature should be mentioned for its value in evaluating other efforts to describe and compare Spanish and English: Lado consistently was concerned not only with the form and meaning of a language signal, but also with the distribution of the signal. For example, in comparing a particular signal that indicated the sentence was a question calling for a yes or no response, Lado noted that a particular form in English was limited to the verbs "be" and "have," while in Spanish the corresponding form had no special restrictions. It follows that a Spanish-speaker learning that "¿Es un campesino?" comes out in English as "Is he a farmer?" would think that any similar question with the same structure in Spanish would come out in English with the same English structure. Not so. "Have you my paper?" causes no difficulty, but "Take you my picture?" does cause difficulty, a problem caused by differences in the distribution of the grammatical form between the two languages. It would be expected that only a minimum of practice would be needed on the forms that are the same in Spanish and English, but much practice would be needed on the forms that differ. Consequently, teaching materials for teaching English to Spanish speakers should provide particular practice on the forms that differ.

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[56] Edwin T. Cornelius, Jr., Language Teaching (New York: Thomas Y. Crowell Company, 1953), pp. 7-8.

[57] Charles C. Fries, Teaching and Learning English as a Foreign Language (Ann Arbor: The University of Michigan Press, 1945), p. 9.

[58] Lado, Linguistics Across Cultures, op. cit., whole book.

The Transition from Spanish to English

Literature noting the particular problems involved in the transition from Spanish to English has been published by the Arizona State Superintendent of Schools,[59] the California State Department of Education,[60] the Colorado State Department of Education,[61] the Texas Education Agency,[62] several public school systems,[63] and several professional sources.[64] The New Mexico State Department of Education has published a set of practice material for Indian-speaking children.[65] The state guides were intended to be of service to larger groups of teachers than the local guides. Only the state guides concerning Spanish-speaking children were reviewed here.

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[59] Mamie Sizemore, Ed., A New Approach to Second Language Teaching (Phoenix: Arizona State Superintendent of Schools, 1962).

[60] Teachers Guide to the Education of Spanish-Speaking Children (Sacramento: California State Department of Education, 1952).

[61] Alfred M. Potts, 2d, Neil Sherman, and Roy McCanne, ed., Providing Opportunities for Disadvantaged Children (Denver: Colorado State Department of Education, 1964).

[62] Preschool Instructional Program for Non-English Speaking Children (Austin: Texas Education Agency, 1964).

Of the state guides, all four contained lists of phonological problems of Spanish-speakers learning English, grammatical problems, basic vocabulary lists, and discussions of problems of cultural transition. None contained descriptions of the differences in writing systems, as noted by Lado, for none were concerned with teaching reading in Spanish nor assumed the pupils could read in Spanish. The Arizona guide[66] was the only one with a list of patterns in which the word order and grammatical structure are fairly similar in English and Spanish. None of the guides presented a thorough analysis of the differences in distribution of forms between the languages, in Lado's terms, although all presented some hints to specific distribution problems.

All of the guides contained examples to illustrate the points made and some teaching suggestions using aural-oral pattern practice, games, songs, etc. However, only the Texas guide[67] extended the theory and examples into a full teaching program with practice material (oral only) for pupils, and even this was limited to a short program for pre-school children. It must be noted that the theory contained in all four guides, even with examples, is so complicated that it may be too much to expect a classroom teacher to put it into practice without a set of pupil materials designed to incorporate the theory. Sizemore[68] noted the deficiencies of basal readers for this purpose, and deplored the fact that Arizona state law required the schools to use basal readers. She also deplored the lack of pupil materials designed to incorporate the needed features. Classroom teachers cannot adequately prepare them individually. "It is now recognized that the preparation of material suitable to the needs of second language learners is too complicated and too difficult a task to be undertaken by one or two persons, no matter how excellent their training and experience."[69]

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[63] Examples: Fresno County, California, and Beeville, Las Cruces, Harlingen, and Victoria in Texas.

[64] For example: E. Roby Leighton, ed., Bicultural Linguistic Concepts in Education (Tucson, Arizona: E. Roby Leighton & Associates, 1964).

[65] Division of Indian Education, English Sentence Pattern Drills for Beginning Indian Children (Santa Fe: New Mexico State Department of Education, 1963), designed for use in grade one with the Teacher's Guide to Books 1 and 2 of the Fries American-English Series by Pauline Rojas and others (Boston: D.C. Heath and Company, 1952-57), a series for grades 4-12.

[66] Sizemore, op. cit., pp. 44-45.

Implications for Teaching

In the preceding subsection, literature on the specific problems of the transition from Spanish to English is presented. This might be thought of as a review of literature on the content that needs to be taught. The present subsection is concerned with literature on the approach needed, or how the content should be taught.

The aural-oral pattern practice approach to the teaching of a second language received impetus from the Army Special Training Project developed in World War II to teach listening and speaking skills rapidly in many foreign languages. The aural-oral approach had existed and was actually in rather wide use before World War II, however, according to Coleman and King.[70]

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[67] Preschool Instructional Program . . . , loc. cit.

[68] Sizemore, op. cit., p. 50.

[69] Ibid.

Lado listed the requirements of a modern linguistic or aural-oral method in his book, Language Teaching, A Scientific Approach.[71] His 17 "Principles of Language Teaching" from the book were used by the Bureau of Indian Affairs for a comparison of its own language program with established principles of linguistics.[72] The 17 principles are given here in abbreviated form: (1) speech before writing, (2) memorize basic sentences, (3) establish patterns as habits, (4) teach the sound system, (5) keep vocabulary to a minimum while learning the sound system, (6) teach for the problems of structural difference, (7) teach reading and writing as symbols of known oral language, (8) teach patterns in graded sequence, (9) give language practice rather than translation, (10) teach language as it is, not as it ought to be, (11) concentrate on practice, (12) shape responses through experience and props, (13) use normal speed and style of language, (14) give immediate reinforcement of correct response, (15) help the pupil develop an attitude of identification with the target culture, (16) teach meaning in context of the target culture, and (17) teach for learning, not for entertainment.

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[70] Algernon Coleman and Clara Breslove King, "Part II, the Courses of Study: Summaries and Analyses," English Teaching in the Southwest; Organization and Materials for Instructing Spanish-Speaking Children (Washington, D.C.: American Council on Education, 1940), pp. 127-190.

[71] Robert Lado, Language Teaching, A Scientific Approach (New York: McGraw-Hill Book Company, Inc., 1964), pp. 49-56.

[72] A Scientific Approach to Second Language Teaching (Including Linguistics Knowledge) and the Approach Outlined for Use in the U.S. Bureau of Indian Affairs Schools--A Comparison of the Two Methods (Brigham City, Utah: Field Technical Unit, Branch of Education, Bureau of Indian Affairs, 1964).

Agard and Dunkel reported on a widespread survey type research project conducted with high school and college foreign language courses in order to investigate the relative merits of aural-oral vs. an approach stressing reading skills. Though their conclusions could not be stated as final, they found in general that aural-oral trained students were superior in aural-oral skills and poor in reading, while reading trained students were superior in reading and poor in aural-oral skills.[73]

Besides aural-oral and reading approaches, a number of other "methods" have been reported in the history of language instruction.

There was a "direct method" as opposed to an "indirect method." The direct methods "require students to relate a symbol directly with an environmental event rather than indirectly through the association of the equivalent symbol of the first language."[74] This results in "coordinate" learning, where the new language is learned independently of the old, and is therefore not as subject to interference from the old as it is in "compound" learning by an indirect or translation method. Lambert,[75] Brooks,[76] and others stressed that coordinate learning is the goal, since compound learning is essentially fallacious. Many forms, meanings, and distributions from one language simply cannot be translated verbatim to the new language. Most of the "methods" for teaching English as a second language used before 1940, as reviewed by Coleman and King,[77] were said to have used a "direct" method.

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[73] Frederick B. Agard and Harold B. Dunkel, An Investigation of Second-Language Teaching (Boston: Ginn and Company, 1948).

[74] Wallace E. Lambert, "Psychological Approaches to the Study of Language," Modern Language Journal, XLVII (March, 1963), 120.

[75] Ibid., p. 119.

[76] Brooks, op. cit., pp. 48-50.

In addition to "direct" and "indirect" methods reported in the literature, there was an "incidental method" which is opposed by the "linguistic" method. The features of an incidental method and a linguistic method were compared by Sizemore with a chart adapted from one used by Condie of the University of New Mexico.[78] An incidental method simply uses incidents as they happen to arise in classroom activities designed for other purposes. It puts the burden of organizing the instruction for teaching English skills upon the teacher, and, to an extent, on pure chance. In a seven year study in the 1930s, Meriam[79] showed the incidental method to be workable, and in 1962 Jensen recommended that the incidental method be used prior to the third grade.[80]

In contrast, the linguistic method uses contrived incidents arranged in a pre-determined sequence designed for teaching a second language, and places much emphasis on aural-oral pattern practice as noted earlier in this section. The aural-oral or linguistic method was recommended by Sizemore[81] and others, regardless of the grade level.

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[77] Coleman and King, loc. cit.

[78] Sizemore, op. cit., p. 24.

[79] J.L. Meriam, Learning English Incidentally: A Study of Bilingual Children, Bulletin 1937, No. 15 (Washington, D.C.: U.S. Government Printing Office, 1938).

[80] J. Vernon Jensen, "Effects of Childhood Bilingualism," Elementary English, XXXIX (April, 1962), 363.

[81] Sizemore, op. cit., p. 36.

Summary

In this section of the chapter, literature was reviewed on the linguistic problems facing Spanish-speakers learning English. What it means to know a language was described, and principles of language learning and second language learning were noted from the literature. Several sources of information on the specific problems involved in learning English when the mother tongue is Spanish were noted and compared. Seventeen principles of language teaching were presented from the literature, and several methods of second language teaching used in the past were noted, with indications that recent literature presented conflicting viewpoints on the methods recommended for teaching English as a second language below the third grade.

III. TEACHING READING TO THE SPANISH-SPEAKING CHILD

In this section of the review of literature, the focus is on studies pertinent from the point of view of reading theory, as compared with cultural and linguistic theory examined in the first two sections. The section is divided into three sub-topics: (1) reading readiness for the Spanish-speaking child, (2) beginning reading instruction for the Spanish-speaking child, and (3) approaches to elementary reading instruction for Spanish-speaking children above first grade.

Reading Readiness for the Spanish-Speaking Child

A great many research studies have been done on the subject of reading readiness for the English-speaking child, so many that to attempt to review them would be an almost endless task. However, the factors involved in English reading readiness were of concern in the present study from the standpoint of measurement, in order to provide for statistical control over factors other than the experimental methods which might have influenced the outcome. The factors involved in English reading readiness were also of concern from the standpoint of teaching, in order that weak points in the children's readiness be taken into account in the instructional program.

One summary of what reading readiness is all about was the book Growing into Reading by Monroe.[82] She discussed eight stages of growth and development from birth until approximately age five to six, ending with a stage called "Reading Readiness at School." She then presented chapters detailing six areas of development which have a bearing on the readiness for reading: emotional attitudes (self-confidence, desire to read); physical factors (motor coordination, stage of visual development, presence or absence of visual defects, hearing defects, and neurological defects, general health,); language skills (output, level of expressiveness, level of meaning or quality of ideas, level of sentence structure used, extensiveness and intensiveness of vocabulary, quality of vocal speech); auditory skills (auditory discrimination of non-vocal sounds, vocal sounds, sounds in words); visual skills (eye control, ability to make visual adjustments, visual discrimination, left-to-right eye movement development); and interpretive skills (word perception, comprehension, reaction, and integration). This would appear to be a comprehensive list of factors to use for evaluation of the child's readiness for reading if the child speaks English.

However, for a non-English-speaking child it is obvious that additional attention to readiness for reading in English is required.

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[82] Marion Monroe, Growing Into Reading; How Readiness for Reading Develops at Home and at School (Chicago: Scott, Foresman and Company, 1951).

While Monroe included such language skills as the child's facility with English sentence structure and vocabulary, the assumption was made that the child had control over the phonological patterns of English as discussed in the second section of this chapter. This assumption must be challenged for the Spanish-speaking child.

Buell[83] pointed out the need for special speech training for bilingual children, and described a special speech training program used in Hawaii. No formal evaluation on its benefits were reported. Borrego[84] described some of the speech training needs of Spanish-speaking children learning English reading, but did not report an evaluative study.

Ching[85] reported on a four year study done by Fuller, in which successive groups of bilingual children in kindergarten in San Jose, California, were given special language training. A group of 30 pupils who had the special training were compared with a control group of 29 pupils with no speech training. The results showed fewer failures in first grade reading and higher reading achievement scores on reading tests at the end of the third grade for the group which had received the speech training. No control over intelligence was reported, and neither the names of the tests nor reports of any statistical tests of significance were indicated.

Inconclusive evidence was thus available to show that certain skills taught in speech training classes, including the phonological structure of English, were important factors involved in the Spanish-speaking child's ability to learn to read in English.

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[83] Eleanor M. Buell, "Speech Improvement for Bilingual Children in Hawaii," The National Elementary Principal, XXV (June, 1946), 36-39.

[84] Eva R. Borrego, "The American Child with a Two Language Heritage," The National Elementary Principal, XXV (June, 1946), 33-34.

[85] Doris C. Ching, "Methods for the Bilingual Child," Elementary English, XLII (January, 1965), 22-23.

Another area of readiness development which may need more attention among Spanish-speaking than among English-speaking children is that of vocabulary development. Coleman and King discussed the development of vocabulary lists, and cited a study done at the San Jose School by the University of New Mexico.[86] Attempts were made for several successive years to see how many words could be taught orally to Spanish-speaking school beginners in a school year. The data was incomplete, but one year, after teaching words from a list containing 650 items, the pupils had an oral comprehension median of 633 words and an oral usage median of 567. Another study cited by Coleman and King, done by Hughes with 84 Spanish-speaking children in Albuquerque City Schools and at the San Jose School, showed that the children comprehended an average oral vocabulary of 149 words in September and 451 words in May during their first year of school. Their oral usage vocabulary averaged 127 words in September and 402 words in May.[87]

Tireman[88] recommended a "pre-first" type of program in place of kindergarten for Spanish-speaking children, with one aim being the teaching of an oral vocabulary of 500 to 700 words. He recommended that the child not be exposed to formal reading instruction until he had an oral vocabulary of at least 300 words and a sight vocabulary of at least 75 words, developed through experience charts.

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[86] Coleman and King, *op*. *cit*. p. 6[illegible].

[87] *Ibid*.

[88] Tireman, *op. cit*., pp. 75-108.

Some mention in the literature has been made about the child's vocabulary in Spanish as a readiness factor for learning to read in English. In criticizing several studies on methods of teaching English to bilingual children, Ching noted that the "extent of bilingualism" should have been determined for each child, but she didn't elaborate on whether this included measurement of vocabulary in the mother tongue.[89] Coleman and King cited a study done by Baugh, in which the Spanish words used by "sixteen typical pre-school Spanish-speaking Mexican children ranging in age from 5.5 to 6.0 years" were observed, tested, and recorded.[90] Baugh found that the 1389 words identified represented a "wide range of usefulness," and a "surprisingly rich mind-content." However, many of the Spanish words had no English equivalent. "The difference in concepts in Spanish and in English words affects the countable number of words used by the Spanish-speaking child." It was difficult to interpret this study because the original report, a Master's Thesis done in 1933 at the University of Texas, was not available to the writer.

Tireman reported on a study he had done with four native Spanish-speaking pre-first grade children, in which he found the average oral Spanish vocabulary to be approximately 2000 words. He said:

> Hence he has many experiences and concepts which will help him to comprehend the work of the first grade, even though he may not know the equivalent English forms of expression. In the absence of data to the contrary let us assume that the more words the child has acquired, the faster will be his progress in school.[91]

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[89] Ching, op. cit., pp. 22-27.

[90] Coleman and King, op. cit., p. 67.

[91] Tireman, op. cit., p. 86.

It would appear, then, that the Spanish vocabulary of the Spanish-speaking child should be measured as a possible factor in English reading readiness.

The size of the vocabulary, in either English or Spanish, is, of course, logically related to the breadth and depth of the child's experience background. The enrichment of the child's experience background is universally recommended by those describing kindergarten or pre-first grade programs for bilingual children. The value of such an enriched program at this level, coupled with sound vocabulary and language teaching, has been demonstrated experimentally by Condie,[92] Herr,[93] and others.

Beginning Reading Instruction

Training in oral English skills and a program of experience enrichment have been shown to be of value in a kindergarten or pre-first grade program for Spanish-speaking children, as noted above. In the first grade when formal reading instruction is begun, the values of training in oral English skills and in experience enrichment have been reported with conflicting results.

Cooper,[94] in a carefully controlled four year study of 470 Chamorro-speaking children in Guam, attempted to assess the value of a year of conversational English instruction followed by basal reader instruction, a half year of conversational English followed by basal reader instruction, and immediate use of the basal reader in first grade. A fourth group which also used the basal reader, in different schools which had no connection with the experiment, served as control in order to see if "Hawthorne" effects would influence the outcome. Random assignment of both pupils and teachers, except for the control group, was used to control the bulk of the variables other than the experimental approaches which might influence the outcome. The Columbia Mental Maturity Scale, the usefulness of which had been demonstrated with Guam's pupils, was used in an analysis of covariance design to provide statistical control over intelligence. The teachers were carefully trained and supervised in the conversational English experimental approach. Tests used included A Test of Oral English (original), Lado's Test of Aural Comprehension, and the Reading section of the California Achievement Test.

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[92] LeRoy Condie, "An Experiment in Second Language Instruction of Beginning Indian Children in New Mexico Public Schools," Unpublished Ph.D. Thesis, The University of New Mexico, 1961.

[93] Selma E. Herr, "The Effect of Pre-First-Grade Training Upon Reading Readiness and Reading Achievement Among Spanish-American Children," Journal of Educational Psychology, XXXVII (February, 1946) 87-102.

[94] James G. Cooper, "Effects of Different Amounts of First-Grade Oral English Instruction Upon Later Reading Progress with Chamorro-Speaking Children," The Journal of Educational Research, LVIII (November, 1964), 123-127.

At the end of the first year, both of the conversational English experimental groups were superior in their ability to speak English, but not significantly superior in aural comprehension. At the end of four years the analysis of covariance on reading achievement scores showed significance at the five per cent level of confidence in favor of the experimental group which had used the basal reader from the start. In other words, the conversational English classes, full year and half year, failed to catch up with the basal reader class in reading achievement, even after four years.

Cooper concluded that a more careful linguistic analysis of the Chamorro language was needed before curricular materials or programs could be built which would improve upon the typical American basal reader in developing English reading skills with the children of Guam.

The application of Cooper's findings to Spanish-speaking children may be risky because of the differences between the native tongues. Tireman, after reviewing studies concerning the effect of bilingualism on intelligence and school achievement, stated, "It is best . . . to treat each nationality separately."[95] Nevertheless, it would appear to be the better part of wisdom to see that any program of oral English instruction, used in place of a basal reader in first grade, has the teaching of reading skills and a reading vocabulary as one of its aims. Cooper has presented strong evidence that "conversational English" is not enough.

Another study on three variant emphases in first grade instruction for bilingual pupils was done as part of the Puerto Rican Study in New York City.[96] Pupils classified as "language learners" in grades one, four, and seven were given one-half hour per day of special instruction in one of three variant methods in oral English: vocabulary, structure or language pattern, and experience. The number of pupils involved was small and the results at first grade level were not reported. At the fourth and seventh grade levels, none of the variants were found to have a beneficial effect on reading achievement.

A study of an "informal method" as compared with a "textbook method" of first grade reading instruction for Spanish-speaking children in Santa Barbara, California, was conducted by Petterson and Johnson.[97] No pre-tests, randomized design, etc. were reported. Only 34 children were tested, with informal sight vocabulary tests which were not the same for the two groups. Nevertheless, the investigators concluded that "in the informal chart method, the opportunities for presenting more related words are greater, comprehension is positively assured, and learning takes place without the usual struggle." The investigators preferred the chart method.

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[95] Tireman, op. cit., p. 26.

[96] J. Cayce Morrison, The Puerto Rican Study 1953-1957 (New York: Board of Education of the City of New York, 1958), pp. 26-39.

[97] Inez Petterson and Hazel Johnson, "Methods for Mexicans," Sierra Educational News, XXXIII (September, 1937), 12.

A comprehensive study of methods of teaching initial and later reading instruction was conducted at the San Jose Experimental School in Albuquerque, New Mexico. The study was reported by Tireman[98] and by several others, and reviewed by Ching.[99] Bilingual children in the San Jose School were compared with intelligence and achievement tests to children in two other schools which were equated to the experimental school on a number of factors. It should be noted that San Jose had teachers selected for the program, whereas the control schools apparently did not. An experimental program of balanced reading instruction, extra emphasis on oral English, and wide reading through extensive room libraries was conducted at the San Jose School over a period of eight years. Test results showed significant gains in reading instruction at San Jose as compared with the two control schools. However, in comparison with the national norms for the achievement tests used, the San Jose School children were ahead only in grades one and two, and began to fall behind after grade three. Tireman noted that the year of pre-first grade instruction provided at San Jose helped the children test ahead of the national norms in grades one and two. He went on to explain several possible reasons why the San Jose children began to fall behind national norms after grade three, indicating that it might have been better if vocabulary instruction had been more direct, rather than indirect through wide reading, and that there were probably additional factors related to bilingualism which were not known.

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[98] Tireman, op. cit., pp. 28-33.

[99] Ching, op. cit., p. 23.

The foregoing studies were all that were located concerning methods of teaching initial reading for bilingual children, and which could be called experimental research. There were, however, surveys of practice,[100] descriptions of what were considered by the authors to be ideal instructional programs,[101] and suggestions for teachers.[102] Almost all of them included some reference to extra emphasis on oral English skills and on extra enrichment of the experience background as special needs in a beginning reading program for bilingual children.

Elementary Reading Instruction Above First Grade

A few studies done at grade levels above first grade revealed information of possible help in the present study. Representative of experimental studies was one done by Ching with 246 third grade children who spoke pidgin English in Hawaii. Experimental and control groups were equated in chronological age, intelligence, reading, and English language ability. Tests used included the California Short-Form Test of Mental Maturity, the California Reading Test, and two original tests, the Written English Test and the Oral English Test. In the experimental classrooms a special language program designed to overcome specific errors in oral English usage was conducted 20 minutes daily for six months. Comparisons of scores after the six month period showed the experimental group to be significantly superior to the control group in reading, oral English, and written English.[103] It would appear that a continuing attention to improvement in oral English usage should pay dividends in all areas of language instruction for bilingual pupils.

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[100] For example, see Willis B. Coale and Madorah E. Smith, Successful Practices in the Teaching of English to Bilingual Children in Hawaii, Bulletin 1937, No. 14 (Washington, D.C., U.S. Government Printing Office, 1938).

[101] For example, see Mary Finocchiaro, Teaching English as a Second Language in Elementary and Secondary Schools (New York: Harper & Row, Publishers, 1958), pp. 133-148.

[102] For example, see Mamie Sizemore, ed., Teaching Reading to the Bilingual Child (Phoenix: Arizona State Superintendent of Public Instruction, 1963).

In another study of 568 fourth and fifth grade bilingual pupils in public schools in northern New Mexico, Cline[104] compared a program of instruction enriched through the use of audiovisual aids for one-half hour each day, with a control group which did not receive the audiovisual enrichment. The California Achievement Test, Complete Battery, and selected portions of the Gilmore Reading Test were given to all students. Subjective data was also evaluated. The results showed that the experimental group made significant gains over the control group in all areas tested except spelling. While this study contained no control over intelligence, and the controls over many variables were highly subjective, the large sample size and repetition of the fourth grade experiment a second year with similar results lend much confidence to the results. Although the study was done with bilingual children, the extent of bilingualism was not made clear.

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[103] Doris C. Ching, "Effects of a Six Month Remedial English Program on Oral, Writing, and Reading Skills of Third Grade Hawaiian Bilingual Children," The Journal of Experimental Education, XXXII (Winter, 1963), 133-145.

[104] Marion Cline, Jr., Improving Language Arts of Bilinguals Through Audiovisual Means (Las Vegas, New Mexico: New Mexico Highlands University, 1962).

It might be inferred that not only is attention to improvement of oral English worthwhile throughout the primary grades, but attention to experience enrichment by concrete and audiovisual means is worthwhile also.

Several writers have stressed one point of view or another in regard to the role of phonics instruction in reading achievement. Sizemore[105] argued in favor of phonics for its value in word recognition and also for its value in reinforcing the child's control over speech sounds. Borrego[106] felt that there was danger in teaching the child how to read words that he did not understand. Tireman[107] recommended phonics in moderation, after the child had learned a sight vocabulary.

A new ray of light on the problem of how much phonics and how to organize phonics instruction has been shed by linguists. Fries,[108] Bloomfield and Barnhart,[109] and others have described ways of introducing words to children in accordance with linguistic principles which may help the bilingual child gain control over the sound structure of English. Strickland[110] noted several advantages of linguistic structuring in the teaching of reading. Rojas[111] showed how linguistic principles could be put to use in a series of readers designed for bilingual children.

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[105] Sizemore, Teaching Reading to the Bilingual Child, (noted in footnote 102), pp. 7-9.

[106] Borrego, op. cit., p. 35.

[107] L.S. Tireman, "The Bilingual Child and His Reading Vocabulary," Elementary English, XXXII (January, 1955), 33-35.

[108] Charles C. Fries, Linguistics and Reading (New York: Holt, Rinehart and Winston, 1963).

[109] Leonard Bloomfield and Clarence L. Barnhart, Let's Read, A Linguistic Approach (Detroit: Wayne State University Press, 1961).

[110] Ruth G. Strickland, The Contribution of Structural Linguistics to the Teaching of Reading, Writing, and Grammar in the Elementary School (Bloomington, Indiana: Indiana University, 1963).

Before leaving the subject of reading methods, it should be noted that surveys of reading methods and materials in use for bilingual children in other countries have been made by several observers. Tireman[112] surveyed by actually visiting many areas of the world where bilingual situations exist. He noted a number of approaches, none of which he felt were applicable to the situation in New Mexico where he worked. Coleman and King[113] made an exhaustive analysis of courses of study for bilingual children in Arizona, California, Colorado, Louisiana, New Mexico, New York, Texas, Washington, Guam, Marianna Islands, Hawaii, Philippine Islands, Puerto Rico, Nova Scotia, Quebec, Saskatchewan, Columbia, Peru, Uruguay, the Cape of Good Hope, Beirut, Lebanon, and Palestine. They also examined in detail and criticized 25 series of texts and manuals for teaching English to non-English speakers. They found no approaches or sets of materials which they felt were superior to the regular American basal reader then in use in the Southwest.

Summary

Literature on teaching reading to the Spanish-speaking child was reviewed in the third section of Chapter III. Areas of development affecting reading readiness for English-speaking children were noted, and possible additional areas of development for the Spanish-speaking child, including oral English skills and experience enrichment, were indicated from the literature. Several studies of first grade and later reading instruction for bilingual children were reviewed, indicating that a continued emphasis on oral English skills and experience enrichment is probably helpful, but the teaching of reading skills in the first grade probably should not be ignored if the greatest growth in reading skills is sought. Two surveys of reading methods and materials used with bilingual children in other countries failed to show promise of materials or techniques superior to the regular American basal reader for use with Spanish-speaking children in the United States Southwest.

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[111] Pauline M. Rojas, "Instructional Materials and Aids to Facilitate Teaching the Bilingual Child," Modern Language Journal, XLIX (April, 1965), 137-139.

[112] Tireman, Teaching Spanish-Speaking Children, (noted in footnote 4), pp. 41-56.

[113] Coleman and King, op. cit., pp. 127-258.

IV. SUMMARY

Literature on the cultural characteristics of the Spanish-speaking people of the United States Southwest, linguistic problems involved in learning English when the mother tongue is Spanish, and reading instruction for Spanish-speaking children were reviewed in Chapter III. A summary may be found at the end of each of the three sections. The actual materials used in the present study and literature on the measuring instruments and statistical techniques used are reviewed in Chapter IV in conjunction with the description of the procedure.

CHAPTER IV

PROCEDURE

This chapter is organized into four sections: a chronological listing of the activities of the study, a description of the three experimental approaches, a description of the measuring instruments used, and a description of the statistical procedures followed.

I. ACTIVITIES

Prior to March 1, 1964

In February, 1964, a research proposal describing the present study (substantially as it was carried out) was prepared by the investigator, who was Consultant for the Education of Migratory Children for the Colorado State Department of Education. The proposal was submitted through proper channels and approved by the Department. It was then mailed to approximately 50 Colorado school districts known to have children from Spanish-speaking homes. Replies by phone and mail indicated that a sufficient number of qualified classrooms would be available for the study. The research proposal was therefore submitted to the Cooperative Research Program of the U.S. Office of Education on March 1, 1964.

March 1 to June 30, 1964

School districts willing to participate in the study were asked to identify teachers and classrooms according to the following criteria:

> (1) At least three years experience teaching first grade, (2) hold a bachelor's degree from a college or university recognized for teacher certification purposes by the Colorado State Department of Education, (3) have earned a major in elementary education or its equivalent from a college or university recognized for teacher certification purposes by the Colorado State Department of Education, (4) hold a valid Colorado Teacher's Certificate, and (5) be recommended by

the elementary school principal as an excellent first grade teacher.

> At the opening of school in the fall of 1964, non-migrant first grade children from Spanish-speaking homes will be identified and grouped into classes containing between twelve and twenty pupils from Spanish-speaking homes, plus a balance of children from English-speaking homes to make a total class size of twenty-five to thirty.[1]

Qualified teachers who could expect to have qualified classrooms were asked to submit an application to participate in the study. Thirty-five applications were received, from which 30 teachers who seemed most likely to meet the criteria, and who could attend the 1964 summer workshops planned, were selected. The school districts and teachers who participated are listed in Appendix A of this report.

In May the investigator was notified of the approval of the study for funding by the U.S. Office of Education. The investigator attended a conference in June for directors of 27 studies on first grade reading instruction being funded by the Cooperative Research Program. At this conference it was agreed among the directors that certain common measuring instruments and a common IBM card data format would be used, so that comparable results from all the studies could be analyzed. It was also agreed that a coordinating center, under the direction of Dr. Guy L. Bond and Dr. Robert Dykstra of the University of Minnesota, would be set up to facilitate the work of all 27 studies and the coordinated analyses. In no case was the investigator for the present study prohibited from using the instruments that seemed most appropriate. On the contrary, several instruments that were highly appropriate came to the attention of the investigator through this conference.

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[1] Quoted from the research proposal.

Toward a similar purpose, the investigator attended a conference in June for the directors of three first grade reading studies which were concerned with Spanish-speaking children. Again, it was agreed that helpful coordination and sharing would be carried out. Suggestions and appropriate measuring instruments were obtained for the present study through this conference. The participants included Dr. Thomas Horn of the University of Texas, and Dr. John Manning of Fresno State College, who was co-author of the Linguistic Capacity Index used in the present study. A consultant to the conference was Dr. Herschel T. Manuel of the University of Texas, who was the author and publisher of the Prueba de Habilidad General and the Test of Reading used in the present study.

An Advisory Committee was appointed by the Colorado Commissioner of Education, Dr. Byron Hansford, to help oversee the study and make recommendations concerning its progress. The Committee included two superintendents of participating districts, two professors representing teacher training institutions, one expert on reading instruction and one expert on foreign language instruction. The two superintendents were Mr. Roy Brubacher of LaJara, Colorado, and Dr. Leslie K. Grimes of Greeley, Colorado. Representing colleges concerned with teacher education were Dr. Phillip Perdew of the University of Denver and Dr. Alfred Potts of Adams State College in Alamosa, Colorado. Advising on reading instruction was Dr. Phyliss Adams of the University of Denver. Advising on Spanish and language instruction was Miss Dorothy Duhon, Consultant in Foreign Languages for the Colorado State Department of Education.

The Advisory Committee met on June 24 in Denver to consider the plans for the study. The suggestions made were incorporated into the plans.

On June 25th, a one day orientation conference was held for participating teachers. Twenty-eight of the 30 teachers who had been selected attended the conference, and special arrangements were made for a briefing for the other two teachers. Several principals also attended the conference to learn more about the study. The first item of business was completion of the Teacher Inventory of Approaches to the Teaching of Reading (described in section III of this chapter). The morning session was devoted to a discussion of the problems facing Spanish-speaking children learning to read, the need for more information, and the purposes and general plan of the study. The investigator conducted the session, and Dr. Alfred Potts of Adams State College presented a talk on the cultural problems facing Spanish-speaking children in schools.

The teachers were then divided into groups by geographic area. Three teachers represented Northern Colorado, nine represented the Arkansas Valley in Southeastern Colorado, 17 represented the San Luis Valley, Walsenburg, and Pagosa Springs in Southern Colorado, and one represented Delta on the Western Slope. After geographic stratification to be sure that all three experimental approaches would be distributed fairly evenly over the state, the teachers drew slips of paper for random assignment to experimental groups. Teacher preferences were not considered in the assignment.

The afternoon session of the orientation conference was devoted to separate discussions by experimental group. An explanation of the philosophy and general plan for the experimental method was presented. The basal reader group examined specimen sets of a dozen different basal reader series and chose one with which none of the teachers was familiar for use in the study. It was required that they choose materials with which they were not familiar in order that the materials be new to them, just as the materials in the other two experimental groups would be new to the teachers. The basal reader group chose the Betts Basal Readers published by American Book Company.

The TESL group examined the We Learn English Series of books by Bumpass, and discussed supplementary teaching aids which would be consistent with the philosophy of aural-oral pattern practice. Flannelboards and flannelboard materials were suggested for provision by the project to all teachers in this group.

The LEA group discussed the philosophy of this experimental approach as presented to them, examined catalogs from school supply outlets, and made recommendations for teaching aids consistent with this approach, for provision by the project. Easels, paper, paints, etc. were recommended. The materials actually supplied for each group in August are listed later in this chapter.

All teachers were given copies of the Texas Preschool Instructional Program for Non-English Speaking Children[2] to be studied during the summer. They were asked to work on picture files which would be useful in teaching vocabulary and concepts for Spanish-speaking children. Specific guides on the experimental approaches to be followed were mailed to each teacher one week before the August workshops on the experimental approaches.

Each teacher was paid $250 in ten monthly payments of $25 each for her participation in the study. In addition, travel expenses to the workshops were reimbursed by the project.

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[2] Preschool Instructional Program for Non-English Speaking Children (Austin: Texas Education Agency, 1964).

July 1 to September 30, 1964

During the summer of 1964 the investigator spent several days with each of the experimental approach consultants in order to work out teaching plans. Dr. Faye L. Bumpass, Associate Professor of English at Texas Technological College and consultant for the TESL group, conducted a workshop as part of the summer program at Adams State College in Alamosa, Colorado. The investigator attended part of the workshop and studied directly with Dr. Bumpass, who prepared a 59 page teacher's guide for the present study, to supplement the materials provided for TESL teachers as described in the next section of this chapter. One of the TESL teachers in the study was able to attend part of Dr. Bumpass' workshop.

The investigator also attended part of a summer course in Tucson at the University of Arizona, studying the LEA directly with Dr. R. V. Allen, consultant for the LEA group. Dr. Allen was Professor of Education at the University of Arizona. He prepared five experimental units which were used by LEA teachers in the present study, and were later published in revised form.

The investigator consulted directly with Dr. Mildred Bebell, consultant for the BR group, in Denver during the summer. Dr. Bebell was Adjunct Professor of Early Childhood and Elementary Education at New York University. She found the teacher's guides for the Betts series to be appropriate in many respects. She made a list of modifications or points of special emphasis for using the materials with Spanish-speaking children. The list was presented and discussed at the August workshop for BR teachers noted below.

A series of three workshops were held in Security, Colorado, on August 18, 19, and 20, 1964, in order to help participating teachers become proficient in using the teaching plan to which they had been assigned. Each teacher attended only the workshop for her experimental approach. Requirements of the study concerning the organization of the classroom, description of children who did and did not qualify, procedures for the first few days of school until the fall testing program for the study began, providing information for parents, securing a release from any requirement to teach a district adopted basal reader, the controlled use of supplementary phonics instruction, and project reporting forms were discussed at each of the three workshops. Detailed reports on the three workshops are presented in Appendix B of this report. Teaching materials provided for teachers in each experimental group are listed in Appendix C and described in the next section of this chapter. Most of the teaching materials were distributed at the August workshops, with the remaining items, which had been unavailable in August, distributed September 12 at the workshop on the testing program.

In addition to the distribution of materials and presentation, discussion, and some simulated practice with the experimental approach teaching plans, a "Skill Book" outline was presented at the August workshop for each experimental approach. This outline may be found in Appendix D of this report. Compiled by the investigator from professional literature, the "Skill Book" outline contained sections detailing the skills needed by Spanish-speaking first grade children learning to read in English. The sections included the phonological skills of transition from Spanish, grammatical skills of transition from Spanish, readiness skills, word recognition and vocabulary skills, comprehension and interpretation skills, and cultural skills.

Only the outline for the "Skill Book" was presented at the August workshops, and the outline, being a list of objectives for all three experimental approaches, was the same for each experimental group. However, as the school year progressed and the investigator could observe the progress of each group from visits, discussion with teachers, and teacher's weekly reports, particular sections of the skill book were written up as guides for teaching the objectives listed in the "Skill Book" outline. These were differentiated by experimental group, and were designed to supplement the regular experimental teaching plans. Not all sections of the "Skill Book" outline were written up, only those that seemed in need of amplification as the year progressed. The "Skill Book" write-ups are included in Appendix D following the outline. Some of them were written in part by teachers in the project, whose good ideas could be shared with the others.

When school began in late August or September, each teacher worked with her principal to try to set up a class with between 12 and 20 Spanish-speaking children, plus a balance of English-speaking children to make a total class size of 25 to 30. Only the Spanish-speaking children were considered participants in the research project. Children who knew some Spanish but did not ordinarily speak it at home were not included. In many cases the teachers knew the families, or visited them to find out whether the child spoke Spanish at home. In other cases the aid of the school nurse, principal, custodian, high school Spanish teacher, or other teachers was enlisted to find out which children qualified. No compromises were made with the requirement that the child come from a Spanish-speaking home, even though the desired minimum of 12 Spanish-speaking children per class could not be met in all cases.

During the first two weeks or so, when the classes were being set up, teachers used their regular readiness procedures for the start of the first grade year. No attempt to standardize the program was considered necessary prior to the pre-test period.

On September 12, 1964, teachers of all the experimental groups met together at Security, Colorado, for a workshop on the testing program. Specific instructions were provided in writing covering the testing program, as described in the third section of this chapter and included in Appendix E. Only one test was difficult to administer, the Prueba de Habilidad General (Test of General Ability) administered in Spanish by a tape recording. At the workshop, the entire tape recording of this test was played, discussed in English, and the procedure practiced by the teachers. Only a few of the teachers spoke Spanish fluently, but most found that it was not difficult to follow the tape recording.

The testing program began in each class on September 14 and continued for 13 consecutive school days, except that delays were allowed for excessive pupil absence, teacher absence, etc. All the tests were administered by the regular classroom teachers. Only the Spanish-speaking children were in the classrooms during the testing, which took place for approximately 30 minutes each day. Arrangements were made to have the English-speaking children taken out of the room during the tests.

October 1 to December 31, 1964

The day after the final test in the fall, the first teaching day of the experimental approach began. The date varied from class to class, depending upon local holidays and interruptions in the testing schedule, but this date was considered day one of the 140 day experimental teaching period for each class. Instruction took place in the experimental approach for one hour each day.

One teacher, of the 30 originally selected to participate in the study, had become ill prior to the testing workshop, and attempts to replace her class with another qualified teacher and class proved fruitless. Consequently the study continued with 29 classrooms instead of 30. One other teacher was absent for several weeks in the fall, but her substitute proved qualified, attended the testing workshop and carried on with the testing program and experimental teaching plan with guidance from the investigator. Consequently her class remained in the study.

The investigator prepared a model letter to parents, in English and Spanish, for use in informing parents about the study. Each teacher informed the parents about the project, its purpose, and the experimental teaching approach which the class would follow.

The investigator visited each classroom during the month of October, 1964. To visit each school required four weeks and approximately 4000 miles of driving, due to the distances involved. The purpose of the October visit was to help the teachers get started with the experimental teaching plans, to survey the progress of the children informally, and to collect the tests that had been given earlier. A newsletter describing the investigator's observations on the visits was prepared and sent to each participating superintendent and teacher.

Each teacher filled out a weekly report on her activities with the experimental group and mailed it to the investigator. The report included the amount of time, in minutes per week, spent on direct teaching of the experimental approach for the experimental group, the total amount of time spent during the week on language arts with the experimental group (including, where appropriate, language arts time with the total class), the amount of time the teacher had spent during the week in preparation for teaching the experimental approach, a description of the language arts activities (both experimental and other) used with the experimental group, the major skill objectives of the activities, problems that had come up during the week, materials or equipment not available which would have been of help, and an expression of satisfaction or dissatisfaction with the children's progress. From time to time, the investigator prepared newsletters, both general and for particular experimental groups, commenting on the progress of the study as seen from the teacher's weekly reports. In addition, letters to individual teachers and phone calls were used to help coordinate and solve particular problems that arose from time to time. Each teacher was free to place a collect call to the investigator at any time, but only a few such calls proved necessary.

In December, the investigator attended a second conference for directors of first grade reading studies funded by the Cooperative Research Program. Detailed procedures for reporting variables on uniform IBM card formats were worked out at this conference.

January 1 to March 31, 1965

Late in February, a copy of "An Inventory of Reading Attitude,"[3] for each pupil participating in the study was provided for each teacher, along with instructions for it. The inventory was given at this point for two purposes: (1) to help the pupils become familiar with the inventory, so it would be more valid when given in the Spring testing period, and (2) to furnish an interim assessment of differences in attitude toward reading among the three experimental groups.

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[3] An Inventory of Reading Attitude (San Diego: San Diego County Superintendent of Schools, 1961), pp. 15-16.

The investigator made a second visit to each classroom in February and March, 1965. This visit had four purposes: (1) to survey the progress of each group and make suggestions where appropriate, (2) to use a classroom observation instrument as an aid in determining what differences there were in actual classroom operation between the three experimental approaches, (3) to make observations as needed to rate each teacher in accordance with four criteria, and (4) to obtain data on teachers and pupils for the statistical analyses.

The classroom observation instrument used by the investigator was adapted from the "OScAR R" or Observation Schedule and Record by Medley and Smith.[4] The OScAR R was developed for use in another of the first grade reading studies for the purpose of recording the degree to which teachers implement the differences that might be expected between experimental approaches (such as differences in emphasis between oral and written work), and for the purpose of noting differences between teachers within an experimental group. The investigator practiced with the instrument several times in classrooms not participating in the study before beginning the series of visits to teachers in the study. The instrument was used for three ten minute observations in each classroom. Since three is an insufficient number of observations for reliable use of the instrument, the results were not analyzed and reported by experimental group, but they were used in a cautious subjective way by the investigator in making needed interpretations about each teacher.

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[4] Donald M. Medley and Lou H. Smith, OScAR R and Instructions for Recording Behavior with OScAR R (New York: City University of New York, 1964), used with permission.

The four teacher ratings made by the investigator (described later in this chapter) were not made at the time of the visit. In order that the investigator obtain a comprehensive view of the teacher performance that might be expected with the experimental approach at the particular time of year, the investigator took notes in each classroom visited, and made ratings from the notes after all visits were completed. The records obtained from the use of the OScAR R comprised part of the notes.

The data on teachers and pupils was collected by the use of "Data Tabulation Forms" prepared for the purpose, with detailed written instructions for each item requested. The investigator filled in some of the items (1960 census data, pupil's names, and other information) before visiting the teachers, filled in more of the data in conference with the teachers at the time of the visit, and then left the forms with the teachers for completion and mailing. The information collected is described in a later part of this chapter.

A newsletter stating the general observations of the investigator on visiting the classrooms was prepared and sent to the participants, along with newsletters and "Skill Book" section write-ups specific to the various experimental approaches, noting apparent strengths and weaknesses and suggestions for strengthening areas of weakness.

April 1 to June 30, 1965

The selection of instruments and general plan for the Spring testing were submitted to the Advisory Committee by mail for comments and suggestions. Using their replies, a set of general instructions for the group tests (included in Appendix E) were prepared and mailed, with the tests, to all teachers. The group tests were administered by the classroom teachers beginning on the 140th school day after the fall tests had been completed.

Four short individual oral tests were administered to a random sample (every other name from each class roster, beginning alternately with the first or second name and leaving out children known to have left the school). They were given by the school principal, or someone designated by the principal other than the child's regular teacher. The individual oral test responses were tape recorded and mailed to the investigator for scoring. Test descriptions and scoring procedures are described later in this chapter.

On completion of the school year, a Final Teacher Questionnaire was sent to all participating teachers to obtain their reactions to the experimental methods and materials. The questionnaire contained both rating scales and open ended questions calling for written responses. It may be found in Appendix E.

After June 30, 1965

A tentative plan for the computer analysis was prepared and mailed to the Advisory Committee for comments and suggestions. Their replies were incorporated into a revised plan (described in the last section of this chapter). On completion of all test scoring, checking, and recording, computer data cards were punched and the analyses performed at the Computer Center of the Denver Research Institute, an agency of the University of Denver. Dr. John Horn, Assistant Professor of Psychology at the University of Denver and author of a number of articles on statistical analyses with computers, was retained by the project as consultant for the statistical analyses.

II. THE EXPERIMENTAL APPROACHES

Basal Reader Approach

The materials provided for the project for participating pupils and teachers in the BR group are listed by title in Appendix C. Pupil materials included a language readiness book, reading readiness book, readiness achievement test, first pre-primer, second pre-primer, third pre-primer, study book for all three pre-primers, achievement test for pre-primer level, primer, primer study book, achievement test for primer level, pad of study helps for primer level, first reader, study book for first reader. achievement test for first reader, and pad of study helps for first reader, all from the Betts Basal Reader series, third edition, by Emmett A. Betts and Carolyn M. Welch, published in 1963 by the American Book Company. The teachers received a copy of each pupil item, plus all the teacher's guides furnished for the pupil items. One "Big Book" was furnished for each class, and funds were provided to the school districts for purchase of the set of "Betts ABC Phonics Charts" and teacher's guide if desired by the teacher.

These materials were furnished only for the Spanish-speaking children in the classrooms to be used with them for one hour each day. Teachers were given the option of using the Betts books with the English-speaking children if they wished, provided the district would furnish them. This was done in three districts. In the others, the English-speaking pupils used the regular district-adopted basal reader. The teacher was allowed to group the pupils any way she wished, as long as she used the Betts materials with the Spanish-speaking children. There were at least two groups in each BR classroom. In some cases there were English-speaking children in the group with the Spanish-speaking children.

At the workshop for BR teachers, special attention was called to several suggestions for adapting the Betts materials to Spanish-speaking children, as noted by Dr. Mildred Bebell, consultant for the BR group. The points of emphasis concerned teaching unfamiliar vocabulary, providing a rich visual environment related to the books, use of interest and activity centers, correlating other subjects to the stories in the readers, flexible scheduling to take advantage of experience building activity in the reading program, skipping stories that don't appeal to the children (which didn't seem to happen often), evaluation of readiness for the next level, grouping, and motivation. More detailed summaries of these points may be found in Appendix B.

The teachers were asked to follow the teacher's guides closely, except for the modifications noted above and those suggested in the "Skill Book." The "Skill Book" outline provided a reference on special objectives for Spanish-speaking children in sections I (Phonological Skills of Transition from Spanish), II (Grammatical Skills of Transition from Spanish) and VI (Cultural Skills). Specific points where special emphasis might be needed, with reference to the "Skill Book" outline, were discussed at the workshop (see Appendix B). One "Skill Book" section write-up was provided for BR teachers on section I.B., on learning the sound patterns of English sentences (see Appendix D).

The guides for the Betts materials provided several checklists and other aids, plus tests at the end of the readiness, pre-primer, primer, and first reader levels, to help the teacher with grouping, attention to individual needs, and pacing the children. All the tests were provided for the pupils except the test for the first reader, as hardly any of the children completed the first reader within the 140 day experimental teaching period. The tests were for use by the teachers only. They were not collected by the investigator, since comparable instruments were not available for the TESL and LEA groups.

Teaching English as a Second Language Approach

The materials provided for TESL teachers and pupils are listed by title in Appendix C. The pupil materials included books one to four of the We Learn English series by Faye L. Bumpass, published in 1958 by the American Book Company. Books five and six were provided later where the teachers wanted them. Three teachers did. Teachers were given the pupil books, teacher's guide, professional book by Dr. Bumpass,[5] a 24" x 36" black flannel board, adhesive back velour paper and tag board to prepare cutouts for the flannel board, and ten sets of characters for the flannel board. In addition, Dr. Bumpass prepared a 59 page supplement to the teacher's guide which was provided for each teacher. The supplement gave detailed instructions for two 20 minute periods a day for 28 weeks (the length of the 140 day experimental teaching period), plus one 20 minute period per day of additional activities for 17 weeks, after which the teacher was to implement her own ideas for one period a day, using story books or "language-experience" lessons to help broaden the children's vocabularies. Additional monographs by Dr. Bumpass were also provided, as listed in Appendix B.

The detailed plan provided by Dr. Bumpass is not reproduced here, as it was essentially a structuring of activities described in the Teacher's Guide for We Learn English[6] available commercially. The plan called for aural-oral pattern practice using words and sentences contained in the pupil books. The aural-oral pattern practice continued throughout the entire 140 days, with new words and patterns introduced gradually. Reading skills were introduced gradually beginning in the fourth week, using flash card games and practice on words already practiced orally. Writing of the words in the books was introduced beginning approximately the sixth week, depending upon the child's progress. A wealth of games, conversations, dramatizations, use of visual aids, use of objects, etc. were described in the guides. Concepts and English words were taught directly from experience, although the Spanish equivalents were provided in the pupil books at the bottom of each page.

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[5] Faye L. Bumpass, Teaching Young Students English as a Foreign Language (New York: American Book Company, 1963).

[6] Faye L. Bumpass, Teacher's Guide for We Learn English (New York: American Book Company, 1963).

The first four books of the We Learn English series contained a reading vocabulary of 243 words. Word recognition skills taught included mostly look-and-say or configuration skills, although some phonics generalizations were introduced. In order to extend both the reading vocabulary and word recognition skills, "Skill Book" section IV was written-up for TESL teachers, and several appendices for it, describing specific procedures, were provided. Section IV gave specific suggestions for teaching context skills, configuration skills, phonics skills, structural analysis skills, and beginning dictionary (picture dictionary) skills using the Bumpass books. The write-up is included in Appendix D of this report.

The Bumpass books contained few stories of any length of a type similar to those in the basal readers. Consequently the teaching plan for the third 20 minute period each day, as outlined by Dr. Bumpass, contained full length stories to be taught as aural-oral activities for 17 weeks. Much reference was made to Teaching Young Students English as a Foreign Language,[7] which contained detailed descriptions of procedures for teaching classic children's stories, such as "The Three Bears." After the 17 weeks for which a detailed guide was provided, teachers were asked to use language-experience stories developed from the children's own activities, and children's story books to develop skills of oral comprehension, understanding sequence, and other skills noted in the "Skill Book."

In the TESL approach, the materials were designed specifically for teaching English to Spanish-speaking children. Therefore it was not considered appropriate, except in unusual cases of language-immaturity, to include English-speaking children in the TESL group instruction. Consequently for the one hour per day devoted to the TESL approach (usually three 20 minute periods), the Spanish-speaking children constituted a reading group by themselves, while the other children were assigned independent activities. The TESL approach called for much group activity of short duration, such as games and dramatizations. Consequently most of the instruction was a group effort, and little individual pacing was possible except in the seatwork and independent activity assigned the TESL pupils while other groups in their rooms were receiving reading instruction.

The TESL plan as written by Dr. Bumpass contained short evaluative activities (tests, evaluative games, etc.) to help the teacher pace the instruction for the group. Moreover, since the instruction was more oral and more group centered than the relatively independent reading activities of the basal reader group, it was relatively easy for the teacher to assess progress through the many responses required of each child during each lesson.

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[7] Bumpass, Teaching Young Students (noted in footnote 5).

Language-Experience Approach

The materials provided for LEA classes are listed in detail in Appendix C. No materials were provided specifically for each pupil, all materials were provided for the LEA experimental group as a whole. Included were several kinds of paper, paints, scissors, paste, chalk, paper fasteners, and an easel. In addition, extra funds for the expenses of field trips and audio-visual aids were provided to the districts.

A professional book, Learning to Read Through Experience[8] and a pamphlet, "The Language-Experience Approach to Reading Instruction,"[9] were provided for each teacher. In addition, each teacher received three LEA teaching units developed by the San Diego County Schools: "Language Experiences in the Kindergarten," "Beginning Writing Experiences," and "At Home and School,"[10] and five experimental LEA units developed by Dr. R. V. Allen, the consultant for the LEA group: "I Learn to Read and Write," "Growing Up," "Magic Plastics," "Animals Everywhere," and "From Roller Skates to Rockets." The three San Diego units are available from the Superintendent of Schools of San Diego County, California, so they are not reproduced here. The five experimental units, the teacher's guides of which were each about 30 pages in length, have been revised and published by Dr. Allen and Encyclopedia Britannica Press, Inc.,[11] so they are not reproduced here.

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[8] Dorris M. Lee and R. V. Allen, Learning to Read Through Experience (New York: Appleton-Century-Crofts, 1963).

[9] R. V. Allen and Gladys C. Halvorsen, "The Language Experience Approach to Reading Instruction," Ginn Contributions to Reading No. 27 (Boston: Ginn and Company, 1961).

[10] These three units were developed by Dr. R. V. Allen when he was Director of Curriculum Coordination for the San Diego County Schools. They are available from the Superintendent of Schools, Department of Education, San Diego County, California.

The LEA as described in the San Diego guides and the experimental units by Dr. Allen began with the premise that all children could read something. They could read the signs of the weather, approximate times of the day from the sun, the moods of people from their faces, etc. They could also read many labels on commercial products. The teachers had the children bring in examples of words they could read and had them read the words for the class.

The teaching program was built around seven types of language experiences outlined by Dr. Allen for level one: sharing experiences; discussion experiences; listening to stories; telling stories; dictating words, sentences, and stories; writing independently; and making and reading books. The guides presented a wealth of suggested specific activities within the seven categories, for developing all types of language skills. Much use was made of painting, drawing, and other forms of artistic expression as a vehicle for developing the child's oral expression and written expression. An emphasis was placed upon pupil output as well as input.

The LEA teaching guides provided by Dr. Allen were designed for all first grade children, and were not designed specifically for

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[11] R. V. Allen and Claryce Allen, Language Experiences in Reading (Chicago: Encyclopedia Britannica Press, Inc., 1966).

Spanish-speaking children. Consequently some modifications were suggested to the teachers in the LEA workshop (see Appendix B) and by means of the "Skill Book" (see Appendix D). A description of a sample modified LEA lesson, observed in part by the investigator, may help explain the language-experience approach as it was used in the study. In the unit on "Growing Up" was a lesson entitled "Pretending I'm Grown," with a suggested time of four to five days for the lesson. At the beginning of the lesson the teacher showed pictures of people dressed up or equipped for various occupations: a farmer, a milkman, a mechanic, a banker, a hairdresser, etc. Filmstrips might have been used, also, to show occupations. As each picture was shown, the teacher pronounced the name of the occupation and what the person did: "This is a farmer; he grows our food." The teacher would then have the children repeat the words after her to check on pronunciation and intonation patterns, and the children would practice as she directed. After about ten minutes in which about 15 occupations had been presented, the teacher played a review game with the pictures, and also with phrases without the pictures ("I bring milk to people's houses. I am a ________."). She continued to call for improved pronunciation and practice on the correct forms, whenever she heard "meelkman," "sheep captain," and other mispronunciations. She then divided the class (the whole class was using LEA, about 30 children) into three groups. One group worked at an easel and a table where paints, crayons, and various kinds of paper were placed. Alongside were bookshelves with story and picture books about people and what they do for a living. This group was directed to put on aprons (made of old sheets) for protection, and to paint a picture of what they would like to be when they grew up. They were directed to look in the books for ideas.

The second group went to another activity corner where the teacher had assembled aprons, towels, various hats, a baseball glove, a wrench, a medicine bottle, and other items which she had asked the children to bring the day before. There was also some cloth, colored paper, scissors, paste, and a stapler for use in making costume items. This group was directed to quietly pick out or make something that helped to show what some people did when they were grown up. When they were ready they were to take their seats and join the group working with the teacher.

The third group, in their seats, dictated sentences to the teacher, sentences about what they would like to be when they grew up. The teacher wrote the sentences on a sheet of chart paper with a felt pen. After each sentence was written, she read it to the child and asked him if it was correct. If it was, she then asked the child to read (say) it to her, and she wrote his name beside the sentence. She then had some of the children take out a "word box" (a shoe box kept on a table with words on tag board cards about three by five inches) and add any words that were not in the box, using a crayon and blank cards which were in a stack on one table. The word box was kept in alphabetical order.

After each child at his seat had dictated a sentence, the teacher called on the "pretend" group to show and tell what they pretended to be with the articles they had gotten at the activity center. One child pretended to be a mother, with six children and a clean house! She had a broom in her hand. The teacher asked questions to draw out responses in English, and frequently taught a new word (broom, brush) and called for oral practice on the new words both by the pretender and by the listeners. Often she called attention to the sounds of various words ("What can you hear in broom that sounds the same in brush?"). Sometimes she wrote words on the chalkboard to illustrate similarities.

The next day, a different group was at the painting center, and the group which had paintings completed showed them to the class and dictated a sentence about each one. The teacher wrote the sentences on sentence strips, right in front of the class so that all could see. The sentence strips were then attached to the pictures with a stapler and the results hung on a bulletin board later to be bound into books. Meanwhile, several children added words to the "word box." Where a child was unable to write the word he would come up to the chart or picture and copy it, or have another child write it for him. The teacher would keep all the charts and refer to them often, asking first the original author to read a sentence, then allowing others who could read it to do so. Later, she would take words from the charts and the children's pictures and put them on special word charts which were always posted on the wall. Each chart contained only words with a particular beginning sound or vowel sound. As she posted a new word, she would have a child look in the word box to see if there was another word that began like the ones on the chart.

Several of the modifications of the procedures suggested by Dr. Allen may be noted in the above description, including the introduction of the experience with pictures or concrete actions rather than discussion, the teaching of new oral vocabulary, extra emphasis on correct oral pronunciation and intonation patterns, and extra attention to the grouping of words into sound patterns (beginning sound or vowel sound, later ending sound) on charts. Innovations such as these were suggested by the investigator in order to meet the special needs of Spanish-speaking children.

It might be noted that the vocabulary control appeared to be much more free than in the basal reader or the TESL approach. However, it was possible for the teacher to select the words to be placed on teaching charts and receive special reading emphasis. Moreover, the teachers commented that, as Dr. Allen claimed, the words that were learned best were the ones used most, and they were the high frequency words upon which basal readers and vocabulary tests are built. The "function words" in linguistic terms, had to be learned because language cannot function without them. Also, it should be noted that the children in the LEA were learning more than words. They were learning how to learn about words, how to store them and retrieve them, and how to find them for spelling. It appeared, toward the end of the school year, that the LEA children were reading and writing more independently of the teacher than in the other two groups, and they learned to use picture dictionaries more extensively.

LEA teachers were given the option of using the LEA with the entire class or with the experimental group only. A few tried using a basal reader with the English-speaking children, but soon switched to all LEA. The motivation and excitement of the activities going on in the LEA group appeared to be overwhelming. Although one hour per day of LEA instruction was requested for the experimental group, it was difficult to distinguish LEA activities from others in many classrooms.

The evaluation of progress in the LEA was less formal than in BR or TESL, as the whole approach was less formal. However, since the learning was made dependent, to a large extent, on pupil output (oral, written, and artistic expression), there was much for the teacher to use to assess progress. Toward the end of the year, stress was placed in LEA classrooms on reading story books, both silently for pleasure and aloud for the class. This gave the teacher much opportunity to assess progress and plan activities to meet the needs of individual children.

III. MEASURING INSTRUMENTS

One hundred seventeen variables were identified, and all but 12 were scaled and used in the statistical process in the present study, thus providing some degree of statistical control over most of the factors which might have influenced the outcome. Many of the variables and the scales for collecting data on them were suggested by the directors of other first grade reading studies and the Coordinating Center for first grade reading studies, as noted in the first section of this chapter.

The variables and the measuring instruments employed are described in this section in the following categories: pretest measures on the child, home variables, parent variables, teacher variables, language arts curriculum variables, school variables, community variables, and posttest measures on the child. The variables used in the statistical process were assigned numbers in parenthesis. The numbers may be used to find the results on the variables and trace the use of the variables in Chapter IV.

Pre-Test Measures on the Child (Thirty Variables)

Twelve items of information about the child, some of them estimates or ratings, were collected and reported by the teachers on forms prepared for the study. Simple items of information included: (1) the sex of the child; (2) age in months as of October 1, 1964 (rounded to the nearest month); birthplace of the child (a descriptive six point scale identifying Colorado, Texas, New Mexico, other states, Mexico, and countries other than the U.S. or Mexico); and (3) the number of half-days of school experience of any type prior to the school year of the study (nine point scale graduated in steps of 100 half-days). Items which required teacher judgement, based on whatever information was available, included the child's ethnic classification; (4) vision and related eye problems (a seven point descriptive scale which was later converted to a dichotomous scale, good vision or poor vision, by the investigator); (5) hearing problems (an eight point descriptive scale which was later converted to a dichotomous scale, good hearing or poor hearing, by the investigator); (6) health and energy (five point scale: excellent all year, excellent most of the year, satisfactory most of the year, below average, or definitely poor); (7) mental health, motivation, and attitude toward school (same scale as health and energy); (8) speech difficulties (five point scale: none, some difficulty in correct pronunciation probably due to interference from Spanish, severe difficulty probably due to interference from Spanish, some organic difficulty, severe organic difficulty); and two rating scales given in Appendix E. The rating scales were five point scales adapted from seven point scales used in the Puerto Rican Study in New York City (reference given in Appendix E). One scale (9) concerned the child's ability to speak English, the other (10) the ability to understand spoken English. The teachers were asked to rate the children three times during the fall testing period, and then report their best judgement as a single rating.

Seventeen pre-test scores were obtained from the scores and subtest scores of the formal fall testing period described in section I of this chapter. The instructions to the teachers administering the tests are included in Appendix E, along with those tests which are not readily available in the form used.

Three tests of mental ability were used: one in Spanish, one in English, and one non-language test. The Spanish language test was (11) the Prueba de Habilidad General[12] from the Inter-American Series by Manuel. This test is identical to the English version Test of General Ability, except that the directions and items are in Spanish. The two tests were developed in Texas and Puerto Rico. They have four parts: vocabulary, number, association, and classification. Information on reliability and validity for form HG-1-CEs (Spanish version used in the present study), obtained from the author, indicated a mean correlation of .84 between forms DEs and CEs when administered to groups of 159 and 174 first grade children enrolled in schools of Puerto Rico. Presumably, the reliability for a single form would be higher than between forms. A correlation of the total score with teacher's estimates of pupil achievement near the close of the first semester, based on 111 first grade pupils, was .48. Actually, data on validity and reliability would hardly apply in the present case because the test was administered under unusual conditions, as described below.

Since most of the teachers participating in the present study did not speak Spanish, and since the distance between schools prevented the simultaneous administration of the test by a Spanish-speaking person, the only course open to the investigator was to have a tape recording prepared and duplicated, and use the tape to administer the test. A tape recording of the Prueba as used by Dr. John Manning in another research project at Fresno State College in California was obtained. The tape was played for the participants in a workshop on teaching English as a second language at Adams State College in Colorado in the summer of 1964. It was the consensus of opinion among participants of the workshop that there were too many words and pronunciations on the tape that would be foreign to Colorado Spanish-speaking children, as the local dialect was somewhat different from that of California. Consequently, Mr. Luis Trujillo, Instructor in Languages at Adams State College and an expert on the local dialect of Spanish, was engaged by the research project to prepare a tape for the administration of the Prueba de Habilidad General in the local Spanish dialect. The word changes desired by Mr. Trujillo were checked with Dr. Herschel T. Manuel of the University of Texas, the author of the Prueba. Dr. Manuel rejected some of the changes as affecting the validity of the test, and a compromise was worked out. In the final version, no words were changed in the actual testing items, but words in the directions and certain inflections were changed to make the test more understandable to speakers of the local Spanish. The words changed are noted in Appendix E.

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[12] Herschel T. Manuel, _Prueba de Habilidad General_ (Austin, Texas: Guidance Testing Associates, 1962).

The administration of the test by tape recording was expected to cause some difficulty, since many of the children would not have heard or responded to a tape recording before. To overcome this a tape recorded pre-test exercise, involving drawing a house by connecting dots on a duplicated sheet of paper, was prepared by the investigator and the directions taped in Spanish by Mr. Trujillo. In addition, the pre-test prepared by Manuel to help children get used to the testing situation, Pre-Prueba Para Niños Empezando El Primer Grado, was administered in Spanish via the tape a day preceding the test itself.

The tape recording was duplicated and provided to each teacher at the testing workshop before the fall testing period. At the workshop, the tape was played and each step in the process of administering the test was discussed and practiced. The procedure was described in detail in the "General Instructions" for the September tests, which is reproduced in Appendix E.

The English language intelligence test used (12) was the Pintner-Cunningham Primary Test, Form A.[13] This is a well known instrument of long standing, and was recommended by the group of directors of first grade reading studies, a group of highly experienced and qualified people in the field of reading instruction. The Pintner-Cunningham Primary Test has seven parts: (1) Common Observation, (2) Aesthetic Differences, (3) Associated Objects, (4) Discrimination of Size, (5) Picture Parts, (6) Picture Completion, and (7) Dot Drawing. Validity as measured by correlation with the Stanford-Binet ranged from .73 to .88 in studies cited in the test manual.[14] Between forms reliability was reported as ranging from .83 to .88 in the manual. These data cannot be considered relevant to the present situation, because many of the children may not have known enough English for reliable results with this test in the fall of the first grade year.

The Pintner-Cunningham was administered in English by the classroom teachers, following the directions listed in the test manual.

As a non-language measure of intellectual maturity, the Goodenough-

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[13] Rudolf Pintner, Bess V. Cunningham, and Walter N. Durost, Pintner-Cunningham Primary Test (New York: Harcourt, Brace and World, Inc., 1964).

[14] Rudolf Pintner, Bess V. Cunningham, and Walter N. Durost, Pintner-Cunningham Primary Test Manual of Directions and Key (New York: Harcourt, Brace and World, Inc., 1946).

Harris Drawing Test[15] was chosen (13). Redbird[16] compared the Goodenough to the English Edition of the Stanford-Binet and to the Non-Language Multi-Mental Test for use with Spanish-speaking children. She was seeking an intelligence test that was not highly correlated with ability to understand spoken English. Her results favored the Goodenough. Data obtained from the Test Department of Harcourt, Brace and World, Inc., the publisher of the Goodenough Test, showed a correlation of .23 between the Pintner-Cunningham Primary Test and the Goodenough when used with 4,243 first grade pupils enrolled in parochial schools of the New York City metropolitan area. The correlation between the Goodenough and the Reading section of the Metropolitan Achievement Test, obtained from the same population at the same time, was .40. It would appear from these data that the Goodenough measures something of predictive value which is not measured by the Pintner-Cunningham. That was exactly what was desired in the present study, in order to obtain data for valid covariates in the analyses of covariance.

The Goodenough-Harris Drawing Test was administered by the classroom teachers in accordance with the instructions in the manual.[17] The pupils were asked to draw a picture of a man, then of a woman, and then of themselves. The instructions were provided in Spanish for the teachers in case they found it helpful (see the General Instructions for September tests, Appendix E). Two of the drawings were scored (man and woman) using the complete scoring scales provided in the manual. They were scored by the investigator's wife, Mrs. Lorraine McCanne. Mrs. McCanne is qualified as an elementary teacher, and has a minor in psychology. She was given special training in scoring the Drawing Test by Dr. E. Ellis Graham, a psychologist and former director of the Division of Special Education of the Colorado State Department of Education. Dr. Graham served the research project as a consultant on measurements and evaluation.

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[15] Florence L. Goodenough and Dale B. Harris, Goodenough-Harris Drawing Test (New York: Harcourt, Brace and World Inc., 1963).

[16] Helen Marie Redbird, "A Pilot Study to Indicate the Possible Success of Using Existing Standardized Tests in Determining the Learning Potential or Intelligence of the Children of Domestic Agricultural Migrant Workers in Colorado" (Denver: Colorado State Department of Education, 1961). (Mimeographed.)

[17] Dale B. Harris, Goodenough-Harris Drawing Test Manual (New York: Harcourt, Brace and World, Inc., 1963).

In addition to the three tests of intelligence or mental maturity, 11 separate subtests were used to evaluate the reading readiness of the children in the study. The tests included the standardization edition of the revised Metropolitan Readiness Tests, Form A.[18] Six subtests (variables 14 to 19 in Chapter IV) comprise the battery: (1) Word Meaning, (2) Listening, (3) Matching, (4) Alphabet, (5) Numbers, and (6) Copying. The items for each test were drawn by item analysis from a tryout form which included some items from the previous edition of the Metropolitan Readiness Tests, and some new items. All art work was new. The tryout form had been administered to approximately 6,500 beginning first grade pupils in several areas of the United States in the fall of 1963. The tryout form was found to have correlations with end of first grade standardized achievement tests (Metropolitan and Stanford) ranging from .55 to .75. It stands to reason that the standardization edition, being a superior form, would maintain at least that standard.

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[18] Gertrude H. Hildreth, Nellie L. Griffiths, and Mary E. McGauvran, Metropolitan Readiness Tests (New York: Harcourt, Brace and World, Inc., 1964).

The Murphy-Durrell Diagnostic Reading Readiness Test, Revised Edition,[19] helped to add further information to the assessment of the reading readiness of each pupil. This test was in three parts (variables 20, 21, and 22): (1) Phonemes Test, on the identification of phonemes in spoken words (pictures marked as response), (2) Letter Names Test, on the identification of capital and lower case letters by name (letters marked as response), and (3) Learning Rate for Words Test, on the identification of words one hour after they had been taught as sight words (words marked as response). These tests were used in a research edition, for which data on reliability and validity were not available. They appeared to complement the Metropolitan tests in that they provided information on phoneme identification (auditory discrimination with words) and learning rate for words, which the Metropolitan did not.

Two other short readiness tests by Thurstone were used to complete the readiness test series. One (23) was Identical Forms, A Test of Perceptual Speed.[20] This provided a further factor not covered by the other tests, since the test was timed. The other (24) was Pattern Copying,[21] a similar test to the Metropolitan, Copying, but longer.

In addition to intelligence tests and reading readiness tests, one other test was used in the fall testing period. The Linguistic Capacity

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[19] Helen A. Murphy and Donald D. Durrell, Diagnostic Reading Readiness Test, Revised Edition (New York: Harcourt, Brace and World, Inc., 1964).

[20] L.L. Thurstone and T.E. Jeffrey, Identical Forms, A Test of Perceptual Speed. Used with permission.

[21] Thelma G. Thurstone, Pattern Copying. Used with permission.

Index, by Brengelman and Manning,[22] had been developed to measure the extent to which Spanish-speaking kindergarten and first grade children had gained facility with oral English vocabulary, phonological skills, and oral grammatical skills. It was a new test, without statistical data of any kind, and its use was experimental.

The vocabulary section (25) consisted of 20 items in which one of three pictures was to be marked. The items covered a wide range of types of words, including not only nouns and verbs, but also words like "some" ("Draw a circle around some dogs.") and "both" ("Draw a circle around both the cats."). The contrastive phonology section (26) consisted of 20 items in which the child's ability to distinguish certain phonemes was tested ("Mark the pen," with picture choices showing a pin, a pen, and a pan). The contrastive grammar section (27) consisted of 20 items in which the child's ability to distinguish meaning by interpreting sentences correctly was tested ("Mark the boy who is going to jump," with pictures showing a boy who had jumped, one who was going to jump, and one who wasn't going to jump). All of the items were keyed by the use of symbol cards which the teacher held up to help the child find his place. It was hoped that the use of the test would add strength to the assessment of the child's ability to understand spoken English, as well as provide validating information for the authors of the test.

All of the foregoing fall tests were scored under the supervision of the investigator, mostly by secretaries. All were scored at least twice, and spot checked by the investigator, with the frequency of spot checking dependent upon the number of errors found. It was estimated by the investigator that errors were held to less than plus or minus one per cent in the final analyses.

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[22] Frederick H. Brengelman and John C. Manning, Linguistic Capacity Index (Fresno, California: The authors, 1964).

It might be felt that the large number of tests given in the fall would be in some way detrimental to the attitude of the teacher or the pupils or both, and that the last tests given (see schedule in Appendix E) might suffer as a result. The investigator was concerned about this and inquired of the teachers after the tests were completed. He found that contrary to what might be expected, the teachers and pupils generally enjoyed the tests and felt they learned a lot from them. As the test schedule called for only approximately 30 minutes per day, it appeared that not much of a fatigue factor occurred.

One further measure completed the variables which were termed pretests on the child, although it was a process variable rather than a pretest variable. The number of days of absence by the pupil during the 140 day experimental instructional period (variable number 28) was entered into the statistical analysis.

Measures on the Home (Eight Variables)

Each teacher was asked to make one visit to the home of each child participating in the study in her classroom. Five items of information and three items requiring some judgement were requested for use in the analyses.

Items of information requested included whether or not the child or his immediate parents or guardians were receiving welfare assistance (29), not counting workmen's compensation, unemployment compensation, or assistance from agencies other than the Welfare Department. Other items included the number of children in the home (30), the number of adults (age 25 or over) living in the home who spoke only English (31), the number of adults who spoke only Spanish (32), and the number of adults who spoke both English and Spanish (33).

The judgemental items requested included the monetary value of the child's house (34) as a type of control over socio-economic status between experimental groups. The teacher was asked to get advice from a local banker, appraiser, etc. if she was in doubt about any particular house. It made no difference whether the family owned the house or was renting it. The value requested was the best available estimate of what the house would sell for on the open market, using a code to scale the variable in nine steps with intervals of $3,000 (1 = $000 to $3,000; 2 = $3,001 to $6,000; . . .).

Two other items requiring judgement on someone's part (the teacher or parent or pupil) included the extent to which the child watched television (35), using a six point scale graduated in intervals of seven hours per week (0 = no TV, 1 = less than seven hours per week, 2 = seven to 13 hours per week, . . .); and the extent to which the parents read to the child in English at home (36), using a simple three point scale (none, occasionally, frequently).

Measures Concerning the Parents (Eight Variables)

Teachers were requested to obtain information concerning the birthplace of the father, mother, and all four grandparents of the child, using the same six point scale as that used for the birthplace of the child. In addition, teachers were asked to find out the number of years of schooling completed by the father (37) and by the mother (38), using a ten point scale graduated in intervals of two years (0 = none, 1 = one or two years, 2 = three or four years, . . .).

Measures on the Teacher (Nineteen Variables)

Seven items of information about the teacher's experience and education were collected: age (39), highest degree held, type of teaching certificate (40), number of years of total teaching experience (41), number of years of teaching experience in first grade (42), the teacher's marital status, and the number of her own children the teacher had had (43). All the teachers were women, and all met the criteria described in section I of this chapter.

In addition, the number of days of absence by the teacher during the 140 day experimental teaching period (44), and the number of minutes per week spent in preparation for teaching the experimental approach (45) were recorded for the computer analysis.

At the first workshop in June of 1964, before assignment to experimental groups, the teachers responded to the Teacher Inventory of Approaches to the Teaching of Reading[23] developed by the San Diego County Schools. This instrument was designed to help teachers analyze their ways of teaching and beliefs in respect to three approaches: basal reader (46), individualized (47), and language-experience (48). Three separate scores were obtained, each with a possible range of 11 to 55 points indicating the teacher's consistency with each of the three separate approaches. Although the development of the inventory was not described in detail in the San Diego monograph, it was rated highly by 67 teachers and researchers when it was used in the San Diego County study on improving reading instruction during the 1959-1960 school year.

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[23] A Teacher Inventory of Approaches to the Teaching of Reading (San Diego, California: Superintendent of Schools, San Diego County, 1961).

The inventory was not used in the present study in the manner in which it was intended to be used by the developers. It was intended as an instrument for self-improvement by teachers. In the present study, the teachers were not given their scores; the instrument was used only as a statistical contribution to data for potential covariates in the analyses of covariance. Its use in this manner was justified by the screening procedures built into the statistical process, which eliminated invalid measures (see section IV of this chapter).

Three additional measures were obtained through the use of a rating scale used during the summer after the year of the experiment. The teachers were asked to give a rating of the experimental method (49), the experimental materials (50), and the method and materials counted together (51). Each rating used a five point scale. Although obtained after the study, the ratings were considered potential covariates indicating the teacher's attitude toward the experimental method she had used.

Four additional ratings on teacher performance were provided by the investigator, using notes on the visits to each classroom as described in section I of this chapter. Five point scales were used to indicate (52) the degree to which the teacher structured the class (vague to clear, detailed directions), (53) the extent of class participation in the lesson (general unresponsiveness to enthusiastic participation by all), (54) the teacher's awareness and attention paid to the individual needs of pupils (total lack of awareness to exceptional awareness and effective adjustment), and (55) a general teacher competence variable (incompetent to excellent). The ratings were made by the investigator in a somewhat subjective manner following the final visit to each classroom. No assurance can be given that the ratings were highly valid or reliable, but they were subjected to the screening procedures in the statistical process.

Measures on the Language Arts Curriculum (Eleven Variables)

The principal variable of the study, of course, was the experimental approach used. Related to this were several variables on which scaled information was collected. Although each teacher was asked to spend one hour per day using the experimental approach with the children participating in the study, it was felt that information on the actual amount of time spent should be collected. This information (56) was obtained from the weekly report submitted by each teacher. Also obtained from the weekly report was the total amount of time spent by the participating children on all language arts activities, including the experimental approach and others (57). The time spent by the child reading supplementary books outside the experimental approach time (library books, classroom story books, basal readers etc.) and the number of such books read were collected. The time factor (58) was reported by the teachers with a six point scale using intervals of 25 minutes per week. The number of books read (59) was reported by the teachers using a ten point scale using intervals of five books.

In addition to the above variables, information was collected from the teachers about the amount of time in minutes per week spent by the child listening to stories read in English in school by a competent reader, outside of the one hour per day experimental approach time, using a six point scale (60) with intervals of 25 minutes per week: the amount of supplementary phonics instruction using an incidental method (using the chalkboard or prepared materials designed to meet timely needs as occasions arose), using a five point scale (61) with intervals of 50 minutes per week; the amount of supplementary phonics instruction using a sequential method (using formal commercial or teacher prepared materials organized into a pre-determined course of instruction), using a five point scale (62) with intervals of 50 minutes per week; the amount of supplementary spelling instruction during the second half of the school year, not counting the above phonics instruction, using a five point scale (63) with intervals of 50 minutes per week; and the amount of separate instruction provided for the child by a trained speech correctionist, using a five point scale (64) with intervals of ten minutes per week. Also, a dichotomous scale (yes or no) was used to collect information on whether or not the services of a librarian were available in the school (65).

Measures on the School (Seven Variables)

Information collected on the school included the size of the total class (English- and Spanish-speaking) as of October 1, 1964 (66); the size of the class as of May 1, 1965 (67); length of the school day (68) using a ten point scale with intervals of one half hour; length of the school year (69) using a ten point scale with intervals of five days beginning with 160 days (0 = less than 160 days, 1 = 161 to 165 days, etc.); the number of first grade classrooms in the school building (70); the number of first grade classrooms in the school district (71) using a ten point scale with unequal intervals; and the cost per pupil in average daily attendance (72). The last item (cost per pupil) included only the elementary level instructional cost, operating cost, and maintenance cost for the district. This information was estimated from the records of the State Department of Education for the 1964 calendar or 1964-65 fiscal year. A ten point scale with intervals of $100 per year was used.

Measures on the Community (Four Variables)

Information collected on the community from the 1960 Census[24] included the median number of years of education completed by adults age 25 and over (73) using a ten point scale with intervals of one year beginning at five years; the median income by family and unrelated adults (74) using a ten point scale with intervals of $1,000; and the population of the community using a ten point scale with unequal intervals (75). It should be noted that the items derived from the 1960 Census data on Colorado were subject to the limitation that only one of the 11 counties represented in the study was tracted, so that in the case of 17 of the 21 schools participating the above information referred to the entire county rather than only the local community. In the case of the population information a local estimate of the size of the town was used where 1960 Census data could not be used.

A further item of information on the community was a rating by teachers of the type of community (rural, incorporated place less than 2500 population, suburban, urban). This rating was not found helpful in a statistical sense, and was used only as descriptive information.

Posttest Measures on the Child (Thirty Variables)

The same rating scales used by teachers in the fall (variables 9 and 10) were used again by teachers during the final testing period (variables 76 and 77) to provide an estimate of the child's ability to speak English and understand spoken English in May. The scales used and instructions to teachers may be found in Appendix E.

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[24] United States Bureau of the Census, "Part 7, Colorado," Census of Population: 1960; Vol. 1, Characteristics of the Population (Washington, D.C.: Government Printing Office, 1963), pp. 157-161 and 172-176.

In February, 1965, copies of a short inventory of reading attitude[25] were provided to the teachers with instructions on using it with the participating children. It was hoped that an interim assessment of the children's enthusiasm for reading might be obtained, and that the instrument could be used in a more familiar and more valid way during the final testing period in May. The results appeared to rule out the interim assessment, as many of the papers were obviously invalid. It did appear, however, that the second purpose was fulfilled, as the instrument appeared to yield reasonable scores (variable 78) when used in the final testing period. The development of this instrument was described in a San Diego County Schools booklet with the same title as the instrument.

Nine subtests of the readiness test series used in the fall were repeated in the spring in the same editions and same forms, in order to provide indications of the growth in readiness skills and to give workable scales for children who might not score on the reading achievement tests because they had not learned enough English. The tests repeated included all of the Metropolitan Readiness Tests except the "Number" test (variables 79, 80, 81, 82, and 83); the "Phonemes" subtest from the Murphy-Durrell Diagnostic Reading Readiness Test (84); and all three subtests of the Linguistic Capacity Index (85, 86, and 87).

The Stanford Achievement Test, Primary I Battery, Form X,[26] was one of two batteries used to test reading achievement at the end of the experimental teaching period. Five of the six parts of the battery were administered: (1) Word Reading (88), (2) Paragraph Meaning (89), (3) Vocabulary (90), (4) Spelling (91), and (5) Word Study Skills (92) which included auditory perception of beginning and ending sounds in words, phonics, and phonograms. The split-half reliability coefficients for the above tests, based on a random sample of 1000 pupils in grade one as reported in the test manual,[27] ranged from .85 to .92 for four of the tests and was .79 for the Vocabulary test. Kuder-Richardson formula reliability coeffieicents (same source as above) ranged from .85 to .93 for four tests, and was .83 for the Vocabulary test.

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[25] An Inventory of Reading Attitude (San Diego: San Diego County Superintendent of Schools, 1961).

[26] Truman L. Kelley, Richard Madden, Eric F. Gardner, and Herbert C. Rudman, Stanford Achievement Test, Primary I Battery (New York: Harcourt, Brace and World, Inc., 1964).

No statistics on validity were reported in the test manual. The validity could only be established by examination of the content and reference to the opinion of experts. The test is so widely used as an achievement test, that it would have some validity for research purposes if only for comparison of results between studies. The content of the tests used appeared to the investigator to be entirely appropriate except that it might have been somewhat difficult for the Spanish-speaking children in the study.

An examination of the reviews of the Stanford Achievement Test in the Mental Measurements Yearbook by Buros[28] revealed that the test was highly regarded by the reviewers. A few criticisms were made, but most concerned the intermediate battery, not the primary battery. One reviewer called for statistics on predictive validity, which were not available. She also felt that the Paragraph Meaning test might be limited in its ability to measure the more complex interpretive skills of reading comprehension and reading interpretation.[29]

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[27] Truman L. Kelley, Richard Madden, Eric F. Gardner, and Herbert C. Rudman, Stanford Achievement Test, Directions for Administering Primary I Battery (New York: Harcourt, Brace and World, Inc., 1964), p. 30.

[28] Oscar K. Buros, ed., "Stanford Achievement Test," The Sixth Mental Measurements Yearbook (Highland Park, New Jersey: The Gryphon Press, 1965), pp. 109-128.

The other reading achievement test chosen for the study was the Test of Reading, Level 1, Primary, Form R-1-CE, by Manuel,[30] the first test in the Inter-American Series of reading tests available in both English and Spanish. This was a brand new test, off the press barely in time for use in the study. No data on reliability or validity were available, nor were there reviews of the test available.

The test contained two parts: Vocabulary (93) and Comprehension (94). It appeared that the format was clear and the items were not difficult to mark. The difficulty level of the content seemed to be lower than that of the Stanford, and the content somewhat more suitable to an experience approach to reading in the sense that there appeared to be less dependence on the vocabulary developed by basal reader stories. These comments reflect judgements by the investigator. Their validity was not checked with objective criteria.

In addition to readiness tests and reading achievement tests, it appeared that several possible strengths of one or another of the experimental approaches might lie in the area of written language expression, and a test was devised to measure performance in writing mechanics, spelling, and writing fluency in actual writing situations. The test, called the First Grade Written Language Measure, was developed by a committee of directors of Cooperative Research Projects, headed by Dr. John Manning of Fresno State College. The Directions to the Classroom Teacher for this test are included in Appendix E. The test was given in two forms: a "Restricted Stimulus Sample" in which the child was asked to write his favorite story with no motivational ideas suggested to him, and a "Unique Stimulus Sample," given a day later than the former, in which the child was asked to write a story with motivation and story ideas presented by the teacher. The stories were scored by the Director and his wife, Mrs. Lorraine McCanne, who is a college graduate and a qualified elementary teacher. They were scored for correct use of capitalization, punctuation, indentation, words spelled correctly, and total number of words. The first three measures were scored as a ratio of correct uses of the items (capital letters, punctuation marks, indentations) over the number of times the items should have been used. Mechanics ratio scores were reported for the Restricted Stimulus (variable number 95) and Unique Stimulus (98). The number of words spelled correctly (variables 96 and 99) and the total number of words written (variables 97 and 100) were reported as separate scores for each stimulus on all children.

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[29] Miriam M. Bryan, "Stanford Achievement Test" in Oscar K. Buros, Ibid., p. 118.

[30] Herschel T. Manuel, Test of Reading, Level 1, Form CE (Austin, Texas: Guidance Testing Associates, 1965).

All the above tests were administered by the classroom teachers in accordance with the instructions provided by the test publishers. The testing schedule and general instructions for teachers are included in Appendix E. The tests were scored under the supervision of the investigator, following the same procedures noted for the fall tests earlier in this chapter.

In addition to the group tests given to all children, four short individual oral reading tests were administered to a random sampling (every other child on alphabetical lists for each class): the Gilmore Oral Reading Test,[31] Phonetically Regular Words Oral Reading Test,[32] Karlsen Phonemic Word Test,[33] and Gates Word Pronunciation Test.[34] The Gilmore is commercially available, but the latter three are not so they are included in Appendix E along with the instructions for administering them. All four tests were administered by the principals of the respective schools, or teachers (designated by the principal) other than the classroom teacher. The tests required oral responses which were tape recorded, and they were scored from the tapes. The scoring was done by Mrs. Virginia Plunkett, a doctoral candidate in education at the University of Denver and an experienced elementary teacher. All were scored in accordance with the standard scoring directions, but a few scores were not reported because of poor tape recording or conditions that made the test situation seem invalid. Because the scores on these four oral reading tests were available only for a sampling of the children, they were not used in the analyses of covariance, although the N, mean, and standard deviation for the total group on each of the tests is reported in Chapter V (variables 101 to 105).

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[31] John V. Gilmore, *Gilmore Oral Reading Test* (New York: Harcourt, Brace and World, 1951).

[32] Edward Fry, *Phonetically Regular Words Oral Reading Test*. This test was developed by Dr. Fry for the First Grade Reading Studies, and was used with his permission.

[33] Bjorn Karlsen, *Karlsen Phonemic Word Test*. This test was developed by Dr. Karlsen for the First Grade Reading Studies, and was used with his permission.

[34] Arthur I. Gates, *Gates Word Pronunciation Test*. Used by permission.

IV. STATISTICAL PROCEDURES

Dr. John L. Horn, Assistant Professor of Psychology at the University of Denver and author of a number of professional articles on statistical procedures in psychology and education, was engaged by the research project to help the investigator and the Advisory Committee devise an adequate statistical design and program a computer to carry it out. The computer facility used was a Burroughs B5500 computer operated by the Denver Research Institute at the University of Denver.

The hypotheses could have been tested by merely comparing the mean scores of the three experimental treatment groups on the Stanford Achievement Test, and applying a statistical test of the significance of the difference between the means, such as the F test using analysis of variance. To do this and place confidence in the results would have required the assumption that the procedure used to randomize the assignment of children to treatment groups, that is, random assignment of teachers after geographic stratification, was adequate. There was no certainty that it was adequate. A child's chances of being assigned to one or another treatment group depended upon where he lived. In the few cases where there was more than one participating class in a school, the child's chances of assignment were determined by the school's criteria for assignment to classes. It was known that several schools were assigning children to classes by criteria other than random placement, criteria such as reading readiness test scores, prior schooling, etc.

Consequently the simple analysis of variance design was not considered adequate for the present study. A design was prepared which provided for (1) the collection of data on as many independent variables (which might influence the outcome) as possible, (2) factor analysis of the independent variables to reduce their number to manageable proportions, help indicate what was measured, and show how to improve the variables by combining related measures, (3) identification of the independent factors which were sufficiently correlated with the outcome measures to warrant statistical control, and (4) the use of the appropriate variables as covariates in analyses of covariance. The dependent variables for the analyses of covariance were prepared with combinations of scores from the group tests given in the spring, with the aid of a factor analysis on the scores.

The specific procedures used are described in steps below:

(1) Data were collected on the variables listed in the foregoing section of this chapter. The data on all variables on which adequate scaled measures were obtained were recorded on special forms and punched on data cards.

(2) Means and standard deviations were obtained with reference to the total group.

(3) Intercorrelations among every pair of scaled variables were obtained with reference to the total group. The product moment formula was used, with phi and point biserial formulas used as special cases where required. The coefficients obtained were considered as representative of the relationships existent in the data. Discrepancies from normality, homoscedacity, and linearity were checked only by crude examination. There did not appear to be major discrepancies in the important variables.

(4) Separate factor analyses on total group scores were carried out on the child variables, the environmental variables (all variables which were not child or posttest variables), and the posttest variables.

Initial factoring was by the principal axes procedure, the number of factors being determined by the root-one criterion.[35] This number of factors was then rotated to the approximation of simple structure provided by the application of Kaiser's varimax criterion.[36]

The factor analyses were carried out in order to reduce the number of variables which might be used as covariates and in order to help indicate the relevance of the variables for the desired analyses. The reduction in the number of covariates was desirable on statistical, as well as logical grounds. In covariance analysis, the covariates are combined in linear combination to estimate the dependent variable. This estimated dependent variable is then subtracted from the obtained dependent variable to provide the basic measure upon which the adjusted mean squares, and hence, the F-test is based. The linear combination is developed by use of a least squares minimization procedure in which there is a capitalization on chance fluctuations as the number of variables is increased, in a manner similar to that described by Horn in a multiple regression problem.[37]

(5) The results of the factor analyses on child and environmental variables were examined for groupings of variables, or subfactors, which would make suitable covariates in analyses of covariance. Each grouping was checked for internal consistency by logic and by the intercorrelations among the component variables. In no case were variables grouped together

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[35] John L. Horn, "A Rationale and Test for the Number of Factors in Factor Analysis," Psychometrika, XXX (June, 1965), 179-185.

[36] H. F. Kaiser, "The Varimax Criterion for Analytic Rotation in Factor Analysis," Psychometrika, XXIII (September, 1958), 187-200.

[37] Horn, op. cit., pp. 179-180.

unless they correlated at least .30 with each other; most correlated higher.

(6) Factor loadings on all the posttest variables were checked in order to find a suitable criterion measure for determining whether or not a potential covariate was significantly related to achievement. The two parts of the Test of Reading were found to have the highest factor loading on a general achievement factor. Since these two part scores (Vocabulary and Comprehension) covered a wide range of skills, and since a total score for the Test of Reading (a sum of the two raw scores) was available in the intercorrelation matrix, the total score of the Test of Reading was chosen for correlations to be used as checks on the validity of potential covariates identified in (5) above. Because of the complexity of this task, the Test of Reading score was the only one used at first to identify potential covariates. The range of potential covariates identified seemed adequate for other language skills as well as reading.

(7) Actual covariates were selected from the potential covariates identified in (5) and (6) above, using the following criteria for each dependent variable: (a) logical relationship with the dependent variable, (b) a correlation of .20 or higher with the dependent variable (significant beyond one per cent level of confidence), and (c) independence of the covariate from the experimental approaches used.

(8) Dependent variables for the analyses of covariance were selected with the aid of a factor analysis on all posttest variables, and by logic (face validity) and examination of the intercorrelations among the posttest variables.

(9) Up to this point, all data used were based upon raw scores for the total group using procedures which took missing data into

account. At this point in the procedure, the data cards were checked for missing data. It was found that 195 pupils had complete data for all the variables which would be needed in the analyses of covariance. In most of the remaining cases, only one or two scores were missing. In a case where three or fewer scores were missing, the mean score for the total group on the particular variable was inserted for that case. In this way, complete data were assembled on 300 pupils, with 101 pupils in each of two groups and 98 pupils in the third. Random throw out was used to equalize the groups at 98 each.

(10) Standard scores were computed with reference to the total group for all variables needed in the covariance analyses.

(11) Covariates and dependent variables were computed by adding the standard scores of the variables determined to be appropriate. Fifteen covariates and ten dependent variables were prepared.

(12) One-way analyses of covariance were then computed for each dependent variable, using the three experimental approaches as the independent variables and the appropriate child and environmental covariates for adjusting the means on the dependent variables. A modification of the BMDO4V program was used for these calculations. A technical write-up of the mathematical procedures of analysis of covariance as used here has been provided by Scheffe.[38]

The results are found in Chapter V.

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[38] Henry Scheffé, The Analysis of Variance, (New York: John Wiley and Sons, Inc., 1959), pp. 199-207.

CHAPTER V

RESULTS

Chapter V is divided into eight sections: (1) a description of the sample group, (2) the results of the factor analyses, (3) subfactors rejected as potential covariates, (4) subfactors selected as potential covariates, (5) dependent variables, (6) the results of the analyses of covariance, (7) teachers' opinions on approaches used, and (8) a discussion of the results.

I. THE SAMPLE GROUP

Selection. Children were selected to participate in the study because they (1) were in first grade classes taught by teachers who were selected for the study, as described in Chapter IV, and (2) came from homes where the mother tongue was Spanish. The children were assigned to experimental approaches, or treatment groups, through their teacher's assignment, which was done at random after some geographic stratification, as described in Chapter IV.

Location. The children participating in the study were located in 29 classrooms in 21 schools in 15 school districts in 11 counties in Colorado. The counties, districts, and schools are given in Appendix A. The distribution of the sample by geographic area was as follows: 38 children or 11 per cent in Northern Colorado, 73 children or 22 per cent in the Arkansas Valley of Southeastern Colorado, 205 children or 62 per cent in the San Luis Valley of Southern Colorado (including Walsenburg and Pagosa Springs which are just outside the San Luis Valley on the eastern and western sides, respectively), and 17 children or five per cent in Delta on the Western Slope of Colorado. Using the census classification of 2500 or more as urban, 216 children or 65 per cent lived in rural areas, and 117 or 35 per cent lived in urban areas. In contrast with the sample, 1960 census data reported by Manuel[1] indicated that 31.3 per cent of the Spanish surnamed people in Colorado lived in rural areas, and 68.7 per cent lived in urban areas. In the five Southwestern states, 20.9 per cent of the Spanish surnamed people lived in rural areas, and 79.1 per cent lived in urban areas. It is evident that the sample group was not typical of the population in respect to urban versus rural residence.

Birthplaces. Table III gives the number and per cent of participating children, and their parents and grandparents, born in each of Colorado, Texas, New Mexico, other states, Mexico, and other countries (horizontal classification in the table) for all the people on whom the information was available. The information is subdivided by the geographic area of residence, by urban and rural residence, and the total sample (vertical classification in the table).

The table shows that 92 per cent of the children, 65 per cent of the parents, and 46 per cent of the grandparents were born in Colorado. Of the remainder, most were born in New Mexico. None of the children, only one per cent of the parents, and only seven per cent of the grandparents were born in Mexico, indicating that the sample was mostly from the New Mexican culture group rather than the Mexican immigrant culture group.

Size. At the beginning of the fall testing period in September, 1964, 333 children were participating in the study. The BR group

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[1] Herschel T. Manuel, Spanish-Speaking Children of the Southwest, Their Education and the Public Welfare (Austin: University of Texas Press, 1965), p. 25.

TABLE III

BIRTHPLACES OF CHILDREN, PARENTS, AND GRANDPARENTS BY GEOGRAPHIC AREA

	TO-TAL N[a]	COLO-RADO N	COLO-RADO per cent	TEXAS N	TEXAS per cent	NEW MEXICO N	NEW MEXICO per cent	OTHER STATES N	OTHER STATES per cent	MEXICO N	MEXICO per cent	OTHER COUNTRY N	OTHER COUNTRY per cent
Northern Colorado[b]													
Children	35	25	72	5	14			5	14				
Parents	71	26	37	15	21	23	32	1	1	6	8		
Grandparents	90	11	12	15	17	38	42			26	29		
Arkansas Valley[c]													
Children	71	69	97			2	3						
Parents	134	67	50			67	50						
Grandparents	168	49	29	1	1	113	67			5	3		
San Luis Valley[d]													
Children	181	172	95	2	1	2	1	4	2			1	1
Parents	352	271	77	5	1	65	19	5	1	2	1	4	1
Grandparents	480	297	62	9	2	162	34	2	1	4	1	6	1
Western Slope[e]													
Children	17	15	88	1	6	1	6						
Parents	32	16	50	2	6	11	35	2	6	1	3		
Grandparents	58	11	19			25	43			22	38		

TABLE III (continued)

	TO-TAL N[a]	COLO-RADO N	COLO-RADO per cent	TEXAS N	TEXAS per cent	NEW MEXICO N	NEW MEXICO per cent	OTHER STATES N	OTHER STATES per cent	MEXICO N	MEXICO per cent	OTHER COUNTRY N	OTHER COUNTRY per cent
Urban[f]													
Children	97	85	88	4	4	3	3	4	4				
Parents	192	120	63	5	3	59	31	3	1	3	1	1	1
Grandparents	272	124	46	3	1	115	42	1	1	28	10	2	1
Rural[f]													
Children	207	196	95	4	2	2	1	5	2				
Parents	397	260	65	17	4	107	27	5	1	6	2	2	1
Grandparents	524	244	47	22	4	223	43	1	1	29	5	5	1
Total													
Children	304	281	92	8	3	5	2	9	3			1	1
Parents	589	380	65	22	4	166	28	8	1	9	1	4	1
Grandparents	796	368	46	25	3	338	42	2	1	57	7	6	1

[a] Total number on whom the information was reported by the families involved.

[b] Includes Fort Collins, Greeley, and Milliken.

[c] Includes Avondale, Boone, Las Animas, Manzanola, rural Pueblo.

[d] Includes Antonito, Blanca, Del Norte, La Jara, Manassa, Monte Vista, Pagosa Springs, San Luis, and Walsenburg.

[e] Delta only.

[f] Urban means communities of 2500 or over, rural under 2500.

contained 112 children in ten classes, the TESL group contained 110 children in nine classes, and the LEA group contained 111 children in ten classes.

At the end of the final testing period in May, 1965, 314 of the original children were participating. The BR group contained 103 children in ten classes, the TESL group contained 108 children in nine classes, and the LEA group contained 103 children in ten classes.

Complete data on all variables were available for 195 children at the close of the school year. As noted in Chapter IV, the substitution of the total group mean for a few variables made available 300 subjects with complete data. Random throw out was used to reduce the groups to equal size at 98 each. Tables IV to XI in this chapter were based upon the total group before the standard score data cards were prepared with three equal size treatment groups. The N for variables in Tables IV to XI was within the approximate range of 285 to 333, depending upon the variable. The N for Table XII, giving the results of the analyses of covariance, was 294 (276 for the two dependent variables on writing skills).

Other descriptive statistics. Further information on the sample may be obtained from Table IV which gives the scale, N (number of cases), mean, and standard deviation for all the variables on which information was collected and suitably scaled. Table IV follows the same categories and order as the description of measuring instruments in Chapter IV, section III. Reference to the latter should be made to obtain more complete information about the variable than is available in Table IV.

Twelve variables listed in Chapter III were not listed in Table IV because the type of scale used was not quantitative. The results for seven such variables, the birthplaces of the child, parents, and

TABLE IV

MEANS AND STANDARD DEVIATIONS FOR SCALED VARIABLES

VARIABLE	SCALE	N	MEAN	STANDARD DEVIATION
Pretest measures on the child:				
1. Sex (boy - girl)	1 - 2	333	1.4745	0.4993
2. Age in months, 10/1/64	69 - 99	332	78.9398	5.4609
3. Pre-first schooling	0 - 9	327	1.8135	1.7658
4. Vision (good - poor)	0 - 1*	313	0.0639	0.2446
5. Hearing (good - poor)	0 - 1*	314	0.0191	0.1369
6. Health and energy	0 - 4*	312	1.3718	1.0665
7. Mental health, motivation	0 - 4*	312	1.3333	1.1482
8. Speech difficulties	0 - 4	314	0.8408	0.9872
9. Ability to speak English	1 - 5*	326	2.6442	0.9857
10. Ability to understand spoken English	1 - 5*	326	2.3405	1.0080
11. Prueba de Habilidad General	0 - 80	325	32.8000	13.1678
12. Pintner-Cunningham Primary Test	8 - 59	330	32.2970	10.5559
13. Goodenough-Harris Drawing Test	0 - 144	331	26.6918	8.8264
14. Metropolitan, Word Meaning	0 - 16	329	5.6049	2.3602
15. Metropolitan, Listening	0 - 16	328	8.2805	2.5911
16. Metropolitan, Matching	0 - 15	327	6.9694	3.7054
17. Metropolitan, Alphabet	0 - 16	329	6.5015	4.0627
18. Metropolitan, Number	0 - 26	331	10.3172	4.0947
19. Metropolitan, Copying	0 - 14	331	5.2719	3.1811
20. Diagnostic Reading Readiness, Phonemes	0 - 48	328	17.6037	13.5343
21. Diagnostic Reading Readiness, Letter Names	0 - 52	330	23.3455	12.9229
22. Diagnostic Reading Readiness, Learning Rate	0 - 27	329	9.1033	4.1552
23. Identical Forms	0 - 60	331	13.1934	10.4222
24. Pattern Copying	0 - 36	333	7.7147	6.6146
25. Linguistic Capacity Index, Vocabulary	0 - 20	332	15.6416	2.6277
26. Linguistic Capacity Index, Phonology	0 - 20	332	13.8042	3.3636
27. Linguistic Capacity Index, Grammar	0 - 20	325	16.3662	3.1159
28. Days absent	0 - 140	311	10.9486	9.0503

TABLE IV (continued)

VARIABLE	SCALE	N	MEAN	STANDARD DEVIATION
Measures on the home:				
29. Welfare (yes - no)	1 - 2	307	1.6840	0.4649
30. Number of children	1 - 9	307	5.1922	2.2969
31. Number of adults who speak only English	0 - 9	309	0.1003	0.4176
32. Number of adults who speak only Spanish	0 - 9	310	0.2742	0.5839
33. Number of adults who speak English and Spanish	0 - 9	308	1.8019	0.6520
34. Value of house	1 - 9	325	1.3877	0.6954
35. Extent to which child watched TV at home	0 - 5	296	2.1486	1.3196
36. Extent to which someone reads to child in English at home	0 - 2	296	0.6993	0.6374
Measures on the parents:				
37. Schooling of father	0 - 9	263	3.7643	1.6447
38. Schooling of mother	0 - 9	271	3.8524	1.5981
Measures on the teacher: **				
39. Age of teacher	Years	333	48.1321	11.2935
40. Type of certificate	0 - 5	333	3.8348	0.3713
41. Total teaching experience	Years	333	19.5946	11.2951
42. Teaching experience in first grade	Years	333	12.4775	8.8672
43. Number of own children	0 - 9	333	1.6577	1.0266
44. Days absent	0 - 140	325	3.8277	7.3561
45. Preparation time	0 - 9	333	3.8859	2.4785
46. Teacher Inventory of Approaches, Basal Score	11 - 55	323	44.7461	4.1806
47. Teacher Inventory of Approaches, Individualized Score	11 - 55	323	41.0402	5.4183
48. Teacher Inventory of Approaches, Language-Experience Score	11 - 55	323	38.2570	5.2355
49. Rating of method used	1 - 5*	333	1.7357	0.6593
50. Rating of materials	1 - 5*	333	1.7508	0.7235
51. Rating of method and materials	1 - 5*	333	1.9039	0.7452

TABLE IV (continued)

VARIABLE	SCALE	N	MEAN	STANDARD DEVIATION
Measures on the teacher (continued): **				
52. Class structuring	0 - 4	333	3.0571	0.7977
53. Class participation	0 - 4	333	2.9189	0.6363
54. Meets individual needs	0 - 4	333	2.6096	0.7459
55. General competence	0 - 4	333	2.9520	0.6694
Measures on the language arts curriculum: **				
56. Time spent on experimental approach	0 - 9	333	5.3514	1.6366
57. Time spent on all language arts	0 - 9	333	5.2703	1.9952
58. Time spent reading supplementary books	0 - 5	311	3.2154	1.3943
59. Number of supplementary books read	0 - 9	312	2.8429	2.1804
60. Time spent listening to stories in English	0 - 5	312	3.2724	1.2140
61. Supplementary incidental phonics	0 - 4	314	1.8981	0.9388
62. Supplementary sequential phonics	0 - 4	314	2.2707	1.2844
63. Supplementary spelling	0 - 4	314	1.8248	0.8243
64. Speech correction	0 - 4	316	0.2405	0.8673
65. Librarian (yes - no)	1 - 2*	333	1.8378	0.3999
66. Total class size, October 1, 1964	17 - 34	323	25.7554	4.3959
67. Total class size, May 1, 1965	17 - 34	333	24.6456	3.8696
68. Length of day	0 - 9	333	5.1201	0.8924
69. Length of year	0 - 9	320	3.9281	0.2583
70. Number of first grades in building	1 - 9	333	2.6156	1.0351
71. Number of first grades in district	1 - 9	333	2.8378	1.0329
72. Cost per pupil in A.D.A.	0 - 9	333	3.1562	0.6573
Measures on the community: **				
73. Education of adults	0 - 9	333	4.1682	1.6280
74. Median income	0 - 9	333	2.8919	0.8056
75. Population	0 - 9	333	2.1682	1.7020

TABLE IV (continued)

VARIABLE	SCALE	N	MEAN	STANDARD DEVIATION
Posttest measures on the child:				
76. Ability to speak English	1 - 5*	314	2.2771	0.9525
77. Ability to understand spoken English	1 - 5*	314	1.9968	0.9082
78. An Inventory of Reading Attitude	0 - 25	307	18.2215	3.7220
79. Metropolitan, Word Meaning	0 - 16	296	8.0270	2.8956
80. Metropolitan, Listening	0 - 16	296	10.8209	2.4766
81. Metropolitan, Matching	0 - 15	296	10.9257	3.0002
82. Metropolitan, Alphabet	0 - 16	296	14.5642	2.9333
83. Metropolitan, Copying	0 - 14	296	8.6182	2.7000
84. Diagnostic Reading Readiness, Phonemes	0 - 48	307	37.8046	13.2432
85. Linguistic Capacity Index, Vocabulary	0 - 20	304	18.0066	1.7415
86. Linguistic Capacity Index, Phonology	0 - 20	304	16.6151	2.6754
87. Linguistic Capacity Index, Grammar	0 - 20	304	18.6250	1.8614
88. Stanford, Word Reading	0 - 35	296	18.1081	7.5181
89. Stanford, Paragraph Reading	0 - 38	291	16.7973	8.6241
90. Stanford, Vocabulary	0 - 39	305	16.5180	5.8713
91. Stanford, Spelling	0 - 20	302	9.9470	7.2699
92. Stanford, Word Study	0 - 56	300	32.9633	9.9184
93. Test of Reading, Vocabulary	0 - 30	304	19.9704	7.1678
94. Test of Reading, Comprehension	0 - 30	304	18.5987	7.5840
95. Written Language Measure, Restricted Stimulus, Mechanics Ratio	0 - 100	299	46.9431	25.4526
96. Written Language Measure, Restricted Stimulus, Spelling	0 - up	299	22.9866	16.9763
97. Written Language Measure, Restricted Stimulus, Total Words	0 - up	299	26.7592	18.5005
98. Written Language Measure, Unique Stimulus, Mechanics Ratio	0 - 100	294	50.7177	26.1040
99. Written Language Measure, Unique Stimulus, Spelling	0 - up	294	24.4932	18.6206

TABLE IV (continued)

VARIABLE	SCALE	N	MEAN	STANDARD DEVIATION
Posttest measures on the child (continued):				
100. Written Language Measure, Unique Stimulus, Total Words	0 - up	294	28.6701	19.3882
101. Gilmore Oral Reading Test, Accuracy	0 - 69	127	14.5354	12.2422
102. Gilmore Oral Reading Test, Rate	0 - up	103	64.6408	21.4022
103. Phonetically Regular Words Oral Reading Test.	0 - 30	138	5.2632	7.6397
104. Karlsen Phonemic Word Test	0 - 40	122	8.5902	9.1971
105. Gates Word Pronunciation Test	0 - 40	135	9.8296	6.5019

*Variable was coded with negatively ascending scale.

**For all variables in the category, each child was counted once even though the score was the same for all children in a given class. Thus, a large class received more weight in the mean and standard deviation. Different statistics were obtained when each teacher, class, school, etc. was counted one time only.

grandparents, were reported in Table III as noted previously. The other five variables not listed in Table IV were the following: (1) the child's ethnic classification (almost all "Spanish-American"), (2) the type of college degree held by the teacher (all had bachelor's degrees, four had master's degrees), (3) the marital status of the teachers (all had been married, five were widowed or divorced), (4) the type of community (16 classes were described as "rural," five as "incorporated place less than 2500," and eight as "urban"), and (5) the experimental approach used. The above variables were not scaled in such a way that a mean or standard deviation would be meaningful.

As noted in the footnotes for Table IV, certain variables marked with an asterisk were coded with a negatively ascending scale, so that a higher number meant a smaller value. In such cases, the mean should be interpreted accordingly. Also, certain categories of variables, where all the children in the same class received the same score (teacher, curriculum, school, and community variables) required special interpretation because each child was counted once by the computer, rather than each teacher, school, etc. The mean for such variables was weighted more heavily by large classes than small classes. As an example, the mean years of total teaching experience by participating teachers reported in Table IV is 19.5946 (variable number 41). This was the mean computed by counting one teacher experience score for each child. When each teacher was counted once in a separate analysis, the mean was 18.6 years. Likewise, the mean for the teachers' teaching experience in first grade was 12.0, compared with 12.4775 reported in the table (variable 42).

Information on the accessibility of the raw scores for the study may be found in Appendix F.

II. RESULTS OF FACTOR ANALYSES

Factor analyses as described in the last section of Chapter III were carried out separately on the child variables, environmental variables, and posttest variables. The factor analysis on child variables included two variables described earlier as curriculum variables: supplemental reading time in school and the number of supplemental books read. The environmental factor analysis included all other variables not called child or posttest variables. The reason two non-posttest factor analyses were used instead of one was that all 75 variables together were unmanageable in a single analysis. The selection of variables for one or the other analysis was done arbitrarily on the basis of what seemed to be a variable on the child as opposed to something external to the child.

A summary of the rotated factor matrix for child variables is given in Table V. Factor loadings of less than .25 were omitted to give a clearer picture of where the high loadings were. Table VI gives a similar summary for environmental variables and Table VII for posttest variables. The function of these tables is to show the intermediate step leading to the descriptions of factors given in Tables VIII, IX, and XI, which are discussed later. All variables in these tables were numbered the same as they were numbered in Table IV, for convenience in cross reference.

It may be noted in Table VII that the highest factor loadings in factor 1 (a general achievement factor) were for the two parts of the Test of Reading. The intercorrelation between these two variables was .87. The two parts of this test were apparantly measuring much the same skills, and with good reliability. Since the two parts (Vocabulary and Comprehension) covered a broad range of basic reading skills, it was

TABLE V

ROTATED FACTOR MATRIX SUMMARY, CHILD VARIABLES
(.25 OR OVER)

VARIABLE	FACTORS							
	1	2	3	4	5	6	7	8
1. Sex							.63	
2. Age					.67			
3. Pre-schooling			-.25		.74	-.27		
4. Vision*								.71
5. Hearing*						-.72		
6. Health*		.82						
7. Mental health*		.72						
8. Speech diffic.			.61					
9. Speak English*	-.27		.81					
10. Underst. Eng.*	-.26		.74		-.29			
11. Prueba	.52				.41		.48	
12. Pintner-Cunn.	.67		-.26	-.26	.29			
13. Goodenough	.38			.28	.34		.42	
14. Metro., Wd. Mn.	.69							
15. Metro., Listen.	.69							
16. Metro., Match.	.51				.48			
17. Metro., Alph.	.41		-.25		.59			.34
18. Metro., Number	.60		-.27		.41			
19. Metro., Copying	.41			-.37	.47			
20. Diag., Phonemes	.56				.30	.41		.28
21. Diag., Letters	.49				.59			.34
22. Diag., Lrn. Rt.	.60				.43			
23. Identical Forms	.50						.57	
24. Pattern Copying	.43			-.37	.39	.28		
25. Ling., Vocab.	.74		-.32					
26. Ling., Phonol.	.76		-.38					
27. Ling., Grammar	.67		-.48					
28. Days absent	-.31	.58						
58. Sup. Rdng. Tm.				-.81				
59. Sup. Books				-.73				

*Variable was coded with negatively ascending scale.

TABLE VI

ROTATED FACTOR MATRIX SUMMARY, ENVIRONMENTAL VARIABLES (.25 OR OVER)

VARIABLE	FACTORS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
29. Welfare*			-.26					-.46							.31
30. No. Ch. in home								.35	-.27	-.26					
31. Adults Spk. English											.83				
32. Adults Spk. Spanish										-.77					
33. Adults Spk. both										.77					
34. Value child's house						-.42		-.38							
35. Home TV time														.82	
36. Hm. Listen. Eng.								-.59							
37. Yrs. Sch. Fath.								-.79							
38. Yrs. Sch. Moth.								-.79							
39. Tchr. Age			-.31	-.76											
40. Tchr. Certif.	-.31			-.51		.32					.32		.43		
41. Tot. Tchr. Exp.					-.84								-.26		
42. 1st Gr. Tchr. Exp.				-.85	-.26										
43. Tchr's children													.83		
44. Tchr. Absence			.66									.42			
45. Tchr. Prep. Tm.	-.38				-.41	.43									.42
46. Tchr. Inv. BR	.52		-.25			-.38	-.27				-.35		-.30		
47. Tchr. Inv. Ind.												-.91			
48. Tchr. Inv. LEA												-.88			
49. T. R. Method*	.57			.30									-.34	-.32	
50. T. R. Materials*		-.33		.55	-.27										-.25
51. Tchr. Rat. M. M.*	.51			.47										-.39	
52. Cls. Struct.	-.66														

TABLE VI (continued)

VARIABLE	FACTORS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
53. Cls. Partic.	-.71						.25		-.49						
54. Indiv. needs	-.68				-.28					-.28					
55. Tchr. Comp.	-.92														
56. Exp. Meth. Time				-.28	-.43					.34		-.28			.46
57. Lang. Arts Time									-.47				.49	-.35	.37
60. Sch. Listen. Eng.				-.26		-.77									
61. Sup. Phonics Inc.			.66			-.29						-.31			.29
62. Sup. Phonics Seq.	-.25	-.42	-.59									-.28			
63. Sup. Spell. Time		-.25			-.40					.35		-.46			
64. Speech Corr.					.25	-.57									
65. Librarian*							.61				-.32				
66. Class size 10/1		.90													
67. Class size 5/1		.91													
68. Length of day							-.80		.27						
69. Length of year										.32					-.82
70. No. 1st Rms. Bldg.					-.85										
71. No. 1st Rms. Dist.					-.39	-.41	.55		.27						
72. Cost per pupil	.26		-.72			-.36									
73. Com. Yrs. Ed.					-.64					.26	-.25				-.27
74. Com. Income	.56	.38				-.36	.25			.25	-.25				
75. Com. Population	-.45				-.63	.29									

*Variable was coded with negatively ascending scale.

TABLE VII

ROTATED FACTOR MATRIX SUMMARY, POSTTEST VARIABLES (.25 OR OVER)

		FACTORS			
	VARIABLE	1	2	3	4
76.	Ability to speak English*			.80	
77.	Understanding English*			.75	
78.	Inventory of Attitude				.62
79.	Metro., Word Meaning			-.25	.62
80.	Metro., Listening	.45		-.29	.48
81.	Metro., Matching	.35		-.64	
82.	Metro., Alphabet	.43		-.52	
83.	Metro., Copying	.34		-.45	.30
84.	Diagnostic, Phonemes	.69		-.48	
85.	Ling., Vocabulary			-.63	.29
86.	Ling., Phonology			-.73	
87.	Ling., Grammar	.30		-.71	
88.	Stanford, Word Reading	.75	-.26	-.28	.32
89.	Stanford, Paragraph	.68	-.32		.37
90.	Stanford, Vocabulary	.50	-.25		.54
91.	Stanford, Spelling	.77	-.33		
92.	Stanford, Word Study	.75		-.31	
93.	Test of Reading, Vocab.	.80	-.27	-.33	
94.	Test of Reading, Comp.	.81	-.28	-.26	
95.	W.L.M., Restr., Mechanics		-.32		.55
96.	W.L.M., Restr., Spelling	.28	-.88		
97.	W.L.M., Restr., Tot. Wds.	.26	-.89		
98.	W.L.M., Unique, Mechanics		-.34		.53
99.	W.L.M., Unique, Spelling	.30	-.78		.38
100.	W.L.M., Unique, Tot. Wds.	.27	-.77		.34

*Variable was coded with negatively ascending scale.

decided that the two parts combined would make a good criterion score for checking the validity of potential covariates. A total score for the Test of Reading was available in the data cards. Consequently, the correlation with this Test of Reading total score is given in Tables VIII and IX for each variable under consideration as a component of a covariate.

Also listed in Tables VIII and IX are the lowest coefficients of correlation between a component variable and any of the other component variables in a factor or subfactor. The reason for listing these coefficients was to check on the internal consistency of the factor or subfactor. Coefficients less than .30 were considered too low for the inclusion of a variable in a factor.

A consideration of the factor matrix summaries given in Tables V and VI was the first step in the formation of the subfactors shown in Tables VIII and IX. The second step was the application of logic. For example, factor one in Table V showed high loadings on both certain intelligence tests and certain readiness tests. Since the Prueba de Habilidad General and the Pintner-Cunningham Primary Test were distinctly different and given under different conditions, it seemed wise to consider each a separate subfactor. The Word Meaning and Listening scores from the Metropolitan Readiness Tests, the Phonemes score from the Diagnostic Reading Readiness Test, and all three scores from the Linguistic Capacity Index had to do with something which might be termed listening comprehension, so they were grouped together as a subfactor after it was found that they all had high loadings on factor one. The Number score from the Metropolitan also had a high loading on factor one, but since it did not seem to be involved in listening comprehension, it seemed more logically placed with the remaining readiness scores in factor three, where it also had a fairly high loading. The logic of the

TABLE VIII

CHILD FACTORS

FACTOR	COMPONENT VARIABLES	FACTOR LOADING	LOWEST INTER-CORRELATION	CORRELATION WITH TEST OF READING
1.A.	11. Prueba	.52	---	.55
1.B.	12. Pintner-Cunningham	.67	---	.51
1.C.	14. Metro., Word Meaning	.69	.33	.33
	15. Metro., Listening	.69	.35	.39
	20. Diag. R. R., Phonemes	.56	.33	.58
	25. Ling. C. I., Vocab.	.74	.37	.44
	26. Ling. C. I., Phonol.	.76	.46	.45
	27. Ling. C. I., Grammar	.67	.38	.42
1.D.	24. Pattern Copying	.43	---	.46
2.A.	6. Health*	.82	.46	-.12
	7. Mental health*	.72	.46	-.41
2.B.	28. Pupil days absent	.58	---	-.24
3.	8. Speech difficulties	.61	.33	-.19
	9. Ability to speak Eng.*	.81	.41	-.33
	10. Understanding English*	.74	.33	-.30
4.	58. Suppl. reading time	-.81	.39	.33
	59. Suppl. books read	-.73	.39	.36
5.A.	2. Age of pupil	.67	---	.08
5.B.	3. Previous schooling	.74	---	.10
5.C.	16. Metro., Matching	.48	.50	.47
	17. Metro., Alphabet	.59	.47	.53
	18. Metro., Number	.41	.52	.51
	19. Metro., Copying	.47	.41	.48
	21. Diag. R, R., Letters	.59	.52	.57
	22. Diag. R. R., Lrn. Rate	.43	.41	.52
6.	5. Hearing*	-.72	---	-.10

TABLE VIII (continued)

FACTOR	COMPONENT VARIABLES	FACTOR LOADING	LOWEST INTER-CORRELATION	CORRELATION WITH TEST OF READING
7.A.	1. Sex of pupil	.63	---	.18
7.B.	13. Goodenough-Harris	.42	---	.41
7.C.	23. Identical Forms	.57	---	.32
8.	4. Vision*	.71	---	.03

*Variable was coded with negatively ascending scale.

TABLE IX

ENVIRONMENTAL FACTORS

FACTOR	COMPONENT VARIABLES	FACTOR LOADING	LOWEST INTER-CORRE-LATION	CORRELA-TION WITH TEST OF READING
1.A.	46. Teacher Inv., BR	.52	---	-.35
1.B.	52. Structuring by tchr.	-.66	.32	.27
	53. Class participation	-.71	.41	.20
	54. Attention to ind. nds.	-.68	.32	.17
	55. Teacher competence	-.92	.59	.30
1.C.	74. Mdn. income in comm.	.56	---	-.40
2.	66. Class size 10/1/64	.90	.82	-.15
	67. Class size 5/1/65	.91	.82	-.10
3.A.	44. Teacher absence	.66	---	.13
3.B.	61. Suppl. phonics, inc.	.66	---	.09
3.C.	62. Suppl. phonics, seq.	-.59	---	.20
3.D.	72. Cost per pupil	-.72	---	-.26
4.A.	39. Teacher age	-.76	.39	.07
	40. Type of teaching cert.	-.51	.36	.16
	42. Exp. tchng. frst. gr.	-.85	.36	.01
4.B.	49. Tchr. rating, method*	.30	.46	-.20
	50. Tchr. rating, mater.*	.55	.46	-.23
	51. Tchr. rating, M. & M.*	.47	.57	-.28
5.A.	41. Tchr. total exp.	-.84	---	.12
5.B.	70. No. 1st gr. in bldg.	-.85	---	-.23
5.C.	73. Ed. adults in comm.	-.64	---	-.07
5.D.	75. Population of comm.	-.63	---	.14
6.A.	34. Value of child's house	-.42	---	.08
6.B.	45. Tchr. preparation tm.	.43	---	.20
6.C.	60. Sch. listening in Eng.	-.77	---	-.19

TABLE IX (continued)

FACTOR	COMPONENT VARIABLES	FACTOR LOADING	LOWEST INTER-CORRE-LATION	CORRELA-TION WITH TEST OF READING
6.D.	64. Speech correction	-.57	---	-.13
7.A.	65. Librarian in bldg.*	.61	---	-.01
7.B.	68. Length of school day	-.80	---	.08
7.C.	71. No. 1st gr. in dist.	.55	---	-.18
8.A.	29. Family on welfare	-.46	---	.06
8.B.	30. No. ch. in home	.35	---	-.06
8.C.	36. Hm. listening in Eng.	-.59	---	.21
8.D.	37. Yrs. school, father	-.79	.58	.14
	38. Yrs. school, mother	-.79	.58	.16
9.	57. Sch. lang. arts tm.	-.47	---	-.15
10.A.	32. Ad. hm. spk. Spanish	-.77	---	-.02
10.B.	33. Ad. spk. Span. and Eng.	.77	---	.11
11.	31. Ad. hm. spk. English	.83	---	-.05
12.A.	47. Tchr. Inv., indiv.	-.91	.78	.12
	48. Tchr. Inv., LEA	-.88	.78	.09
12.B.	63. Suppl. spelling tm.	-.46	---	.19
13.	43. No. tchr's. own ch.	.83	---	.02
14.	35. Home TV time	.82	---	.00
15.A.	56. Exper. apprch. time	.46	---	.00
15.B.	69. Length of school year	-.82	---	.06

*Variable was coded with negatively ascending scale.

subdivision of factors should be fairly evident to the reader. It is not discussed here, since each subfactor is discussed in the next two sections of the chapter.

III. SUBFACTORS REJECTED AS POTENTIAL COVARIATES

Child and environmental subfactors were rejected for use as potential covariates in the analyses of covariance if: (1) they had insufficient correlations with the Test of Reading, (2) they were somewhat dependent upon or related to the experimental approach used, rather than independent of it, or (3) there was poor scaling, or an apparent markedly skewed distribution, or some other condition which cast doubt on the validity or reliability of the factor. Judgement was required in several borderline cases.

In general, factors with coefficients of correlation with the Test of Reading lower than .20 were not considered as potential covariates, with one exception noted later. With an N of 300, any coefficient of correlation over approximately .16 would be statistically significant at P = .01, using the formula:[2]

$$\sigma r = \frac{1}{\sqrt{N - 1}}$$

However, a correlation of .20, even though significant from a statistical standpoint, was considered so low as to have little effect in the analyses of covariance. Correlations between .20 and .25 were considered borderline and the variables were adopted as potential covariates only if there was strong logical justification.

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[2] Quinn McNemar, Psychological Statistics, Second Edition (New York: John Wiley and Sons, Inc., 1955), p. 145.

Child subfactors rejected. Child subfactor 1.D in Table VIII, on the Pattern Copying test, met the correlation criteria for selection as a potential covariate. It was not selected, however, because: (1) its factor loading was distributed rather evenly over four different factors, leading to question as to what was measured by the instrument, and (2) the investigator was not satisfied with the scoring of the instrument as it proved difficult to obtain agreement between three different scorers. Moreover, it appeared that everything measured by the Pattern Copying test was adequately measured by some other instrument, including the similar Copying section of the Metropolitan Readiness Tests.

Child factor four in Table VIII was composed of variables on the amount of time spent by the child reading books in school outside the one hour per day experimental approach reading period, and the number of supplementary books read. Both variables had significant correlations with the Test of Reading. On inspection of the scores by treatment group, it was found that the LEA group had considerably higher scores (standard score mean of .7377, compared to -.3814 for BR and -.3563 for TESL), and in a trial run of analyses of covariance it was found that this factor markedly influenced the results. However, the question arose as to what extent this factor was independent of the experimental approach. Since the LEA placed much greater emphasis on the reading of story books, having no single series of story books as part of the pupil materials, it appeared that it was natural for LEA children to read more supplementary books outside of the reading class and that statistical control of this factor might eliminate an advantage of the LEA. Consequently, the factor was rejected as a potential covariate.

Subfactors 5.A on the age of the pupil, 5.B on the amount of schooling of the pupil prior to the year of the study, 6 on hearing problems of the pupil, and 8 on vision problems of the pupil were rejected because of an insufficient correlation with the Test of Reading. It is not known whether these factors were truly not correlated, or whether the coefficient of correlation was low because of the use of a poor instrument or poor scaling. In either event, they would contribute little or nothing used as they were.

Environmental subfactors rejected. A large majority of the environmental subfactors were rejected for use as potential covariates because of an insufficient coefficient of correlation with the Test of Reading. Again, it is not known whether the low coefficient was the result of the instrument or the true characteristics of the sample, but there would be no point in using the variables. Variables discussed here are those variables which had a coefficient of correlation with the Test of Reading of .20 or higher, but which were rejected anyway.

Environmental subfactor 3.D on the school district cost per pupil in average daily attendance, Table IX, showed a negative coefficient of correlation of .26 with the Test of Reading score. This was in contrast to the usual expectation that higher expenditures result in higher school achievement. The investigator was familiar with the school districts participating in the study, and he knew that at least part of the reason for the strange result was the practice of making use of donated services by Catholic Sisters as teachers in some of the low income communities. Although no Sisters took part in the study, the quality of the educational program in some districts was considerably above what would be expected from the figures on expenditure per pupil.

Also, the variable on cost per pupil correlated .54 with the variable on median income of families and unrelated adults in the community (subfactor 1.C in Table IX), and the latter was included as a potential covariate. Therefore, on grounds that the validity of the cost per pupil variable was questionable and part of what it measured was included anyway, the cost per pupil variable was rejected as a potential covariate.

Environmental subfactor 5.B, on the number of first grade rooms in the school building, showed a negative coefficient of correlation with the Test of Reading of .23 in Table IX. This was within the questionable range, and there was some question about the logic of the variable. It might be expected that a larger number of first grades in a school building would lead to higher achievement, since there might be better facilities, equipment, and materials available. But this variable showed that a larger number of first grades led to lower achievement. Consequently, the variable was rejected as unexplainable.

Environmental subfactor 6.B on the amount of time spent by the teacher in preparation for teaching the experimental approach showed a positive coefficient of correlation of .20 in Table IX. This was at the bottom of the borderline range. The statistical reliability of this variable was somewhat questionable, as the standard deviation, shown in Table IV (variable number 45), was fairly high compared with the scale and the mean. Consequently, this variable was rejected. The same grounds for rejection applied to subfactor 8.C in Table IX, a variable on the amount of listening to stories read in English which the pupil experienced at home. This variable (number 36 in Table IV) had a standard deviation almost as high as the mean, and could not be considered reliable. The difficulty, of course, was that the mean was very low, as few pupils had any opportunity for home listening in English.

IV. SUBFACTORS SELECTED AS POTENTIAL COVARIATES

The child and environmental subfactors selected as potential covariates are shown in Table X. All subfactors with coefficients of correlation with the Test of Reading which exceeded .25 were included, except as noted in section III of this chapter. In addition, child subfactor 2.B on pupil absence (changed to pupil attendance in Table X by changing the sign of the correlation); environmental subfactor 3.C on the amount of time spent on phonics with a sequential method, outside the one hour per day experimental approach time; and child subfactor 7.A on the sex of the pupil were included. The attendance and sex factors were included on logical grounds, as they were expected to have a significant correlation with the outcome measures. The phonics subfactor was included on logical grounds also, and because the investigator did some preliminary analysis of the data by class, instead of by individual as done by the computer, and found that the sequential phonics subfactor appeared to make a difference in the outcome. Actually, in the computer analysis the difference was very small because of the low correlation and apparent coverage of this subfactor by other covariates.

The subfactors selected as potential covariates are listed in Table X in descending order according to the highest coefficient of correlation between a component variable and the Test of Reading score. Included are subfactors which might be described as listening comprehension, reading readiness other than listening comprehension, intelligence measured in Spanish, intelligence measured in English, intelligence measured with a non-language test, health and mental health, the median income of families and unrelated adults in the community (negative correlation), the teacher's score on the basal reader scale of the Teacher Inventory of Approaches to the Teaching of Reading

TABLE X

POTENTIAL COVARIATES

COVARIATE NUMBER	FACTOR	HIGHEST r WITH TEST OF READING	HIGHEST r WITH W.L.M. TOT. WDS.[1]	HIGHEST r WITH ABIL. TO SPK. ENG.[2]	HIGHEST r WITH INV. OF RD. ATT.[3]	HIGHEST r WITH METRO. WD. MN.[4]
1.	Child subfactor 1C, listening comprehension in English	.58	.39	.53	.22	.50
2.	Child subfactor 5C, reading readiness other than above	.57	.33	.50	.17	.37
3.	Child subfactor 1A, Prueba de Habilidad General	.55	.30	.40	.18	.30
4.	Child subfactor 1B, Pintner-Cunningham Primary Test	.51	.37	.53	.19	.46
5.	Child subfactor 7B, Goodenough-Harris Drawing Test	.41	.26	.39	.20	.27
6.	Child subfactor 2A, health and mental health[5]	.41	.20	.35	.26	.20
7.	Environmental subfactor 1C, median income in community	-.40	-.34	-.03	-.06	-.17
8.	Environmental subfactor 1A, Teacher Inventory of Approaches, BR score	-.35	-.26	.06	-.21	-.17
9.	Child factor 3, ability to speak and understand English[5]	.33	.07	.70	.17	.20
10.	Child subfactor 7C, Identical Forms A Test of Perceptual Speed	.32	.07	.31	.10	.17
11.	Environmental subfactor 1B, teacher competence	.30	.24	.03	.31	.20
12.	Environmental subfactor 4B, teacher's rating of method and materials[5]	.28	.21	.16	.36	.24
13.	Child subfactor 2B, pupil attendance[5]	.24	.16	-.21	-.03	.17

TABLE X (continued)

COVARIATE NUMBER	FACTOR	HIGHEST r WITH TEST OF READING	HIGHEST r WITH W.L.M. TOT. WDS.[1]	HIGHEST r WITH ABIL. TO SPK. ENG.[2]	HIGHEST r WITH INV. OF RD. ATT.[3]	HIGHEST r WITH METRO. WD. MN.[4]
14.	Environmental subfactor 3C, supplementary time on sequential phonics	.20	.18	.12	.13	.18
15.	Child subfactor 7A, sex of pupil	.18	.15	.13	.09	-.05

[1] Written Language Measure, Total Words score, Restricted and Unique Stimulus combined.

[2] Teachers rating in spring: pupil's ability to speak English (see Appendix E for scale).

[3] San Diego County Schools: An Inventory of Reading Attitude.

[4] Metropolitan Readiness Tests, Word Meaning.

[5] Variable was coded with negatively ascending scale, but appropriate adjustments were made so that correlations would be negative only when meaningful.

(negative correlation), the pupil's ability to speak and understand English as rated by teachers at the start of the study, perceptual speed, the investigator's ratings of teacher competence, the teacher's ratings of the method and materials used, pupil attendance, supplementary time spent on sequential phonics, and pupil sex.

In combining the scores of component variables to form the factor or subfactors selected as potential covariates, standard scores for the variables were added together, thus eliminating the problem of unequal scales which would have been present if raw scores were summed.

In addition to the highest correlation between any component of the covariate and the Test of Reading total score, similar correlations for certain posttest variables are given in Table X in order to have relevant data for the selection or rejection of potential covariates for dependent variables other than those closely related to reading achievement. The posttest variables selected were those showing the highest factor loadings on factors 2, 3, and 4 in Table VII. The Written Language Measure Total Words raw score for the Restricted and Unique Stimulus Samples combined was available in the intercorrelation matrix, so this was used as representative of factor 2. The ability to speak English as rated by teachers in the spring was used to represent factor 3. For factor 4, the San Diego Inventory of Reading Attitude was used to represent itself (being a dependent variable by itself as explained later), and the Metropolitan Word Meaning subtest was used to represent the rest of factor 4.

V. DEPENDENT VARIABLES

Table XI gives the posttest factors and subfactors which were extracted from the rotated factor matrix summary of posttest variables reported in Table VII. The factor number is given in Table XI, along with a letter where the factor was subdivided. The component variables (numbered the same as in Tables IV and VII), factor loading, and lowest intercorrelation among the component variables are also given in Table XI. The grouping of the component variables was done according to the face validity and intended purpose of the tests, and according to the factor loadings and intercorrelations. Each factor is discussed below.

Factor one apparently was a reading achievement factor. All the tests with factor one loadings above .50 were used except the Diagnostic Reading Readiness Test, Phonemes score, which apparently overlapped the reading achievement tests, but seemed more properly placed with the other readiness measures in factor three. Factor one was subdivided into three parts: vocabulary, comprehension, and word study skills. The subdivision was done on the basis of the intended purpose and face validity of the tests, as the intercorrelations among all six tests were high. It must be stressed that there was little statistical justification for subdividing this factor, as all six tests were apparently measuring much the same thing.

In order to measure achievement in developing a reading vocabulary, subfactor 1A was composed of the scores on the Stanford Word Reading and Test of Reading Vocabulary tests. Subfactor 1B on comprehension was composed of the Stanford Paragraph Reading and Test of Reading Comprehension scores. To measure word study or word recognition skills, the Stanford Spelling and Word Study Skills scores were combined for subfactor 1C, as spelling and phonics are highly interrelated. While there was little statistical justification for dividing these scores into three subfactors, there was much statistical justification for combining scores, as the intercorrelations are high.

TABLE XI

POSTTEST FACTORS

FACTOR	COMPONENT VARIABLES	FACTOR LOADING	LOWEST INTERCORRELATION
1.A.	88. Stanford, Word Reading	.75	.80
	93. Test of Reading, Vocabulary	.80	.80
1.B.	89. Stanford, Paragraph Reading	.68	.78
	94. Test of Reading, Comprehension	.81	.78
1.C.	91. Stanford, Spelling	.77	.76
	92. Stanford, Word Study Skills	.75	.76
2.	96. W.L.M., Restricted, Spelling	-.88	.70
	97. W.L.M., Restricted, Total Wds.	-.89	.69
	99. W.L.M., Unique, Spelling	-.78	.69
	100. W.L.M., Unique, Total Words	-.77	.69
3.A.	76. Tchr. rat., ability to spk. Eng.*	.80	-.44
	77. Tchr. rat., ab. to underst. Eng.*	.75	-.38
	85. Linguistic Cap. Ind., Vocabulary	-.63	-.38
	86. Linguistic Cap. Ind., Phonology	-.73	-.49
	87. Linguistic Cap. Ind., Grammar	-.71	-.43
3.B.	81. Metropolitan, Readiness, Matching	-.64	.50
	82. Metropolitan Rdnss., Alphabet	-.52	.40
	83. Metropolitan Rdnss., Copying	-.45	.40
	84. Diagnosite Rdng. Rdnss., Phon.	-.48	.42
4.A.	78. An Inventory of Rdng. Attitude	.62	---
4.B.	79. Metropolitan Rdnss., Word Mng.	.62	.51
	80. Metropolitan Rdnss., Listening	.48	.50
	90. Stanford, Vocabulary	.54	.50
4.C.	95. W.L.M., Restr., Mechanics Ratio	.55	.52
	98. W.L.M., Unique, Mechanics Ratio	.53	.52
Supplementary factor for general reading achievement:			
	88. Stanford, Word Reading	.75	.73
	91. Stanford, Spelling	.77	.75
	92. Stanford, Word Study	.75	.72
	93. Test of Reading, Vocabulary	.80	.75
	94. Test of Reading, Comprehension	.81	.72

*Variable was coded with negatively ascending scale.

Table XI shows that the minimum intercorrelation of any of these pairs was .76.

One further dependent variable was made out of those components of factor one having factor loadings of .75 or more, in order to construct a general reading achievement variable. The components used were the Stanford Word Reading, Spelling, and Word Study scores, and the Test of Reading Vocabulary and Comprehension scores. The minimum intercorrelation was .72. This was the only dependent variable having overlap of component scores with any other dependent variable.

Factor two appeared to be a written language achievement factor having to do with spelling and writing fluency as measured by the First Grade Written Language Measures. The four scores with high factor loadings (Spelling and Total Words for both stimuli) were combined to make a single dependent variable with a minimum intercorrelation of .69.

Factor three was fairly complex, having to do with general reading readiness and with the child's facility with oral English. Subfactor 3A was constructed of the teacher ratings on the child's ability to speak English and understand spoken English, plus the three parts of the Linguistic Capacity Index as given in the spring. The minimum intercorrelation among these components was .38, showing that the internal consistency of this subfactor was low. Subfactor 3B was composed of the Matching, Alphabet, and Copying scores from the Metropolitan Readiness Tests given in the spring, plus the Phonemes score from the Diagnostic Reading Readiness Test. This combination of scores had a minimum intercorrelation of .40. The combination was chosen because other possible combinations had even lower minimum intercorrelations.

In factor four, the score for "An Inventory of Reading Attitude" was used by itself as subfactor 4A, since it was desired to measure reading attitude and no other tests appeared to overlap with it very much. Subfactor 4B was composed of the Word Meaning and Listening scores from the Metropolitan Readiness Tests, and the Vocabulary score from the Stanford (an oral vocabulary measure, since the choices on the test were read to the children), in order to construct an oral vocabulary dependent variable. Subfactor 4B had a minimum intercorrelation of .50. Finally, subfactor 4C was composed of the Mechanics Ratio scores from both stimuli of the First Grade Written Language Measure, with an intercorrelation of .52, in order to measure the child's achievement in writing mechanics.

In combining scores to form dependent variables, standard scores for the individual tests were used, thus eliminating the problem of different lengths of tests and giving each test equal weight. A computer program constructed by Dr. Horn, the statistical consultant, was used to compute standard scores and punch them in new data cards. Each standard score was computed to four decimal places.

VI. ANALYSES OF COVARIANCE

Table XII reports the results of the analyses of covariance, carried out with each of the ten posttest factors or subfactors listed in Table XI on page 136 as dependent variables, with the three experimental approaches as independent variables, and with covariates selected from the list of potential covariates given in Table X on pages 132 and 133. The ten analyses of covariance are listed in Table XII in a general order from oral skills to reading skills to writing skills. The hypotheses, of course, were not specified ahead of time

TABLE XII

ANALYSES OF COVARIANCE

Hypothesis Number	Post-test Sub-factor Number	Dependent Variable, Covariates Used, and Treatment Group	N	Standard Score Un-Adjusted Mean	Standard Score Adjusted Mean	Standard Error of Adjusted Mean	F Value
1.	3.A.	Understanding spoken English. Covariates: 1,2,3,4,5,6,9, 10,13, and 15.	294				0.963
		Basal Reader	98	-0.4684	0.1187	0.1591	
		Teaching Eng. as Sec. Lang.	98	-0.0558	-0.1714	0.1548	
		Language-Experience	98	0.5303	0.0588	0.1580	
2.	4.B.	Oral vocabulary. Covariates: 1,2,3,4,5,6,9, 11, and 12.	294				5.348**
		Basal Reader	98	-0.1300	0.0675	0.1766	
		Teaching Eng. as Sec. Lang.	98	0.2875	0.3815	0.1743	
		Language-Experience	98	-0.1575	-0.4490	0.1783	
3.	3.B.	Reading readiness. Covariates: 1,2,3,4,5,6,9, 10,13, and 15.	294				8.134***
		Basal Reader	98	0.1491	0.7498	0.2237	
		Teaching Eng. as Sec. Lang.	98	-0.3938	-0.3577	0.2177	
		Language-Experience	98	0.2445	-0.3921	0.2222	

TABLE XII (continued)

Hypo-thesis Number	Post-test Sub-factor Number	Dependent Variable, Covariates Used, and Treatment Group	N	Standard Score Un-Adjusted Mean	Standard Score Adjusted Mean	Standard Error of Adjusted Mean	F Value
4.	1.A.	Reading vocabulary. All 15 covariates used.	294				4.666**
		Basal Reader	98	-0.1291	0.3107	0.1205	
		Teaching Eng. as Sec. Lang.	98	-0.2498	-0.1551	0.1156	
		Language-Experience	98	0.3789	-0.1556	0.1239	
5.	1.C.	Word recognition skills. All 15 covariates used.	294				3.633*
		Basal Reader	98	-0.1277	0.2978	0.1337	
		Teaching Eng. as Sec. Lang.	98	-0.2403	-0.1819	0.1284	
		Language-Experience	98	0.3688	-0.1151	0.1376	
6.	1.B.	Reading comprehension. All 15 covariates used.	294				6.355**
		Basal Reader	98	-0.1710	0.2466	0.1271	
		Teaching Eng. as Sec. Lang.	98	-0.0216	0.1523	0.1220	
		Language-Experience	98	0.1926	-0.3988	0.1308	
7.	4.A.	Attitude toward reading. Covariates: 1,5,6,8,11, and 12.	294				5.543**
		Basal Reader	98	0.3068	0.2596	0.0938	
		Teaching Eng. as Sec. Lang.	98	-0.2258	-0.1030	0.0935	
		Language-Experience	98	-0.0810	-0.1566	0.0960	

TABLE XII (continued)

Hypothesis Number	Post-test Sub-factor Number	Dependent Variable, Covariates Used, and Treatment Group	N	Standard Score Un-Adjusted Mean	Standard Score Adjusted Mean	Standard Error of Adjusted Mean	F Value
8.	1	General reading achievement. All 15 covariates used.	294				4.867**
		Basal Reader	98	-0.2559	0.6122	0.2319	
		Teaching Eng. as Sec. Lang.	98	-0.4683	-0.2976	0.2226	
		Language-Experience	98	0.7249	-0.3137	0.2386	
9.	4.C.	Writing mechanics skills. Covariates: 1,2,3,4,5,6,8, 9,10,11,12,13, and 15.	276				1.580
		Basal Reader	92	-0.0909	-0.0238	0.0856	
		Teaching Eng. as Sec. Lang.	92	0.1888	0.1916	0.0841	
		Language-Experience	92	0.1397	0.0699	0.0870	
10.	2	Writing fluency. Covariates: 1,2,3,4,5,6,7, 8,11,12,13,14, and 15.	276				4.891**
		Basal Reader	92	-0.3421	-0.1243	0.0966	
		Teaching Eng. as Sec. Lang.	92	0.2857	0.2330	0.0937	
		Language-Experience	92	0.4499	0.2848	0.0997	

*Significant at P = .05 or less, df = 2 and 275 or more, depending on number of covariates (260 for hypotheses 9 and 10).

TABLE XII (continued)

**Significant at P = .01 or less, df = 2 and 275 or more, depending on number of covariates (260 for hypotheses 9 and 10).

***Significant at P = .001 or less, df = 2 and 275 or more, depending on number of covariates (260 for hypotheses 9 and 10).

but were derived from the dependent variables, after the posttest factor analysis showed what had been measured with a fair degree of validity, and with reliability gained by the combination of those scores which seemed to be measuring much the same thing. An explanation of each analysis is given here.

Hypothesis One, Understanding spoken English. Posttest subfactor 3.A. as given in Table XI represented teacher ratings of the child's ability to speak and understand spoken English in the spring of 1965 at the completion of the experimental teaching period, combined with scores on the three parts of the Linguistic Capacity Index given in the spring. The covariates, used to adjust the means of the three treatment groups for factors other than the experimental methods which might have affected the outcome, were selected from the potential covariates in Table X according to the highest correlation of any component of the covariate with the teacher rating of ability to speak English (the third column in Table X) in the spring, which was one of the components of the dependent variable. Ten covariates were chosen, including all except 7, 8, 11, 12, and 14, which had correlations with the criterion measure of less than .20. Covariate 15 on pupil sex also had a low correlation, but was included anyway as it was felt to be a generally appropriate covariate. Even though it was included, it had little effect.

The unadjusted means show that the LEA group was considerably ahead of the other two groups (probably statistically significant). However, after adjusting for the external variables represented by the covariates, the three means show little difference and the F value for testing the significance of the difference between the three means is not significant at P = .05 with 2 and 281 degrees of freedom. Consequently, the hypothesis that there is no difference in understanding spoken English between first grade children from Spanish-speaking homes who are taught with a basal reader, teaching English as a second language, or language-experience approach, is accepted.

Hypothesis Two, Oral Vocabulary. Posttest subfactor 4.B. as given in Table XI represented the Word Meaning and Listening tests from the Metropolitan series, and the Vocabulary test from the Stanford tests given in the spring. The covariates used were selected according to the highest correlation of any component with the Metropolitan Word Meaning score (last column of Table X). Covariates 7, 8, 10, 13, 14, and 15 were rejected because they correlated less than .20. Thus, nine covariates were used.

The unadjusted means showed the TESL group to be ahead, and after the adjustment the TESL group was still further ahead, with an F value which is significant at P = .01 with 2 and 282 degrees of freedom. The basal reader group was less than two standard errors lower than the TESL group, probably not a significant difference. The LEA group, however, was undoubtedly less successful in achieving an oral vocabulary as measured by the tests used. Consequently, the hypothesis that there is no difference between the three approaches in the development of an oral vocabulary is rejected.

Hypothesis Three, Reading Readiness. Posttest subfactor 3.B. as given in Table XI represented the Matching, Alphabet, and Copying tests from the Metropolitan Readiness series given in the spring, and the Phonemes scores from the Diagnostic Reading Readiness Test. The covariates used were selected according to the highest correlation of any component with the teacher rating of ability to speak English in the spring, the criterion for posttest factor three as discussed earlier. The covariates selected were the same ten as those for hypothesis one, which had posttest factor 3.A. as its dependent variable.

The unadjusted means showed the LEA group to be slightly higher than the basal reader group, with the TESL considerably lower. The adjusted means, however, show the basal reader group to be much higher than both the others, so high as to have an F value significant well beyond P = .001 at 2 and 281 degrees of freedom. The hypothesis that there is no difference between the three approaches in the development of reading readiness skills as measured by standard readiness tests must be rejected with a high level of confidence, in favor of the basal reader approach.

Hypothesis Four, Reading Vocabulary. Posttest factor 1.A. as given in Table XI represented the combination of Stanford Word Reading and Test of Reading Vocabulary scores. All 15 potential covariates were used, since the selection process for potential covariates was based upon the criterion for posttest factor one which included the reading achievement measures.

The unadjusted means favored the LEA group considerably, but the adjusted means placed the basal reader group considerably higher than both other groups, with an F value for the difference which was significant beyond P = .01 at 2 and 275 degrees of freedom. Consequently, the hypothesis that there is no difference between the three approaches in the development of a reading vocabulary is rejected in favor of the basal reader group.

Hypothesis Five, Word Recognition Skills. Posttest subfactor 1.C. as given in Table XI represented the Spelling and Word Study Skills tests from the Stanford series. All 15 covariates were used.

The unadjusted means again showed the LEA group to be ahead, but the adjusted means favored the basal reader group as they did in the vocabulary hypothesis. The F value for the significance of the difference was significant at P = .05 with 2 and 275 degrees of freedom. This is not a high level of significance. The hypothesis that there is no difference between the three approaches in the development of word recognition skills is therefore tentatively rejected in favor of the basal reader approach.

Hypothesis Six, Reading Comprehension. Posttest subfactor 1.B. as given in Table XI represented the Paragraph Reading score from the Stanford series and the Comprehension score from the Test of Reading series. All 15 covariates were used.

The unadjusted means again showed the LEA group to be highest, and the adjusted means again showed the basal reader group to be highest. However, in this analysis the TESL group was not much lower than the basal reader group on the adjusted means. The F value was significant at P = .01 with 2 and 275 degrees of freedom. Consequently, the hypothesis that there is no difference between the three approaches in the development of reading comprehension skills is rejected in favor of both the basal reader and TESL approaches.

Hypothesis Seven, Attitude Toward Reading. Posttest subfactor 4.A. in Table XI was composed of only one test, the San Diego instrument called An Inventory of Reading Attitude. Only six potential covariates as given in Table X had correlations of .20 or higher with this criterion (fourth column in Table X). They were numbers 1, 5, 6, 8, 11, and 12, and they were the covariates used in the analysis.

The unadjusted means showed the basal reader group to be considerably higher than the other two groups, and the adjustment did little to change the picture. The adjusted means show the basal reader much higher than both other groups, with an F value significant beyond P = .01 at 2 and 285 degrees of freedom. Consequently, the hypothesis that there is no difference between the three approaches in the development of a favorable attitude toward reading as measured by the San Diego instrument is rejected in favor of the basal reader approach.

Hypothesis Eight, General Reading Achievement. The dependent variable on general reading achievement was prepared as a more general measure than the specific skills categories reported above, and was the only dependent variable with an overlap of component tests with other dependent variables. The posttests with the highest factor loadings on factor one (Tables VII and XI) were used. They included the Word Reading, Spelling, and Word Study scores from the Stanford Achievement series and the Vocabulary and Comprehension scores from the Test of Reading. All 15 covariates were used.

The unadjusted means showed the LEA group to be considerably higher on this hypothesis, but the adjustment turned the picture upside down. The adjusted means showed the basal reader group to be markedly higher than both other groups in general reading achievement. The F value is significant beyond P = .01 with 2 and 275 degrees of freedom. The hypothesis that there is no difference between the three approaches in the development of general reading achievement is rejected in favor of the basal reader approach.

Hypothesis Nine, Writing Mechanics Skills. Posttest subfactor 4.C. as given in Table XI was composed of the Mechanics Ratio scores from the two different administrations of the First Grade Written Language Measure, one with restricted stimuli and one with unique stimuli. Thirteen covariates were used, including all the potential covariates except 7 and 14 which had low correlations with the criterion for factor four (last column of Table X).

The unadjusted means favored the TESL group, with LEA not much lower. The adjustment did little to change the picture, but the F value for the differences among adjusted means was not statistically significant with 2 and 260 degrees of freedom. The N for the two analyses on writing skills was 276 as compared with 294 for the other analyses, because not as many children were present for the Written Language Measures, which were the last group tests given. The hypothesis that there is no difference between the three approaches in the development of writing mechanics skills is accepted.

Hypothesis Ten, Writing Fluency. Posttest factor 2 as given in Table XI was composed of the Spelling and Total Words scores from both the Unique and the Restricted Stimuli of the First Grade Written Language Measures. Thirteen covariates were used, including all the potential covariates except 9 and 10 which had very low correlations with the criterion (second column of Table X).

The unadjusted means showed the LEA group with the highest scores, and this continued to be true after the adjustment. The adjusted means showed the TESL group to be very close to the LEA, and both of them to be considerably higher than the basal reader group. The F value for the significance of the difference was significant beyond P = .01 with 2 and 260 degrees of freedom. Consequently, the hypothesis that there is no difference between the three approaches in the development of writing fluency is rejected in favor of the LEA and TESL approaches.

Significance of difference between any two means. The usual test for the significance of a difference between two means was not appropriate here, because the covariance analysis process interfered with the operation of chance in producing the adjusted means and standard deviations. A statistical test was possible, but it required a computer program not available to the investigator. Since the differences as noted above were quite clear without a statistical test, no tests were performed on pairs of means.

VII. TEACHERS' OPINIONS ON APPROACHES USED

During the summer after the year of the experiment, the teachers were asked to rate the method and the materials they used in the study, in respect to a number of specific objectives as outlined by the Skill Book. The instrument used to report the ratings was the Final Teacher Questionnaire, which may be found in Appendix E. The results of the ratings may be found in Table XIII.

Standard deviations and analysis of variance F values for computing the significance of the differences between the means in Table XIII were not computed because the N was small (28, as one of the 29 teachers apparently misread the directions and her responses could not be counted), and because horizontal comparisons between the means in Table XIII are not valid. Each teacher had an opportunity to rate only her own approach, and the standards she used were not the same as the standards used by other teachers rating other approaches.

Vertical comparisons in the Table should be valid, however, in order to show in which areas of skill development the teachers thought their approach was relatively strong or weak. It may be noted from the Table that the basal reader teachers felt that their approach was generally strongest in the areas of phonological skills of transition from Spanish, reading readiness skills, comprehension skills, and social orientation. They felt it was generally weakest in the areas of

TABLE XIII

FINAL TEACHER QUESTIONNAIRE RESULTS*

ITEM	BR MEAN	TESL MEAN	LEA MEAN
Phonological skills of transition from Spanish:			
1. Pronouncing English consonants	3.22	2.89	1.90
2. Pronouncing English vowels	3.11	2.55	2.90
3. Sound patterns of English sentences	3.11	3.22	3.10
Grammatical skills of transition from Spanish:			
4. Learning basic English sentence patterns	2.88	3.11	2.90
5. Learning correct English language patterns, (tenses, word order, etc.)	2.88	2.88	2.90
Reading readiness skills:			
6. Physical skills (motor skills, etc.)	2.78	2.55	3.00
7. Enriching experience background	3.33	2.78	3.50
8. Developing interests	3.55	2.67	3.50
9. Developing auditory discrimination	3.22	2.78	3.20
10. Developing visual discrimination	3.44	2.44	3.20
11. Developing left-to-right progression	3.11	2.22	3.20
12. Developing attention span	3.11	2.67	3.20
13. Developing oral vocabulary	3.11	3.00	3.40
14. Developing oral comprehension	2.88	2.78	3.50
15. Telling stories	2.78	3.00	3.20
Word study skills:			
16. Use of context clues	2.55	2.67	2.60
17. Use of configuration (sight vocabulary)	2.67	2.55	3.20
18. Learning capital and small letters	2.88	2.33	2.90
19. Hearing and recognizing consonants in initial position	3.22	2.44	2.80
20. Hearing and recognizing ending phonograms	3.00	2.67	2.70
21. Hearing and recognizing rhyming phonograms	2.78	2.22	3.30
22. Hearing and recognizing short vowels	2.78	1.89	2.40
23. Hearing and recognizing long vowels	3.00	2.00	2.40
24. Recognizing the number of syllables	3.11	1.67	2.10
25. Putting phonograms together	2.67	1.89	2.30
26. Hearing and recognizing inflectional endings	2.55	2.33	2.40

TABLE XIII (continued)

ITEM	BR MEAN	TESL MEAN	LEA MEAN
Word study skills (continued):			
27. Hearing and recognizing compound words	3.00	2.22	3.20
28. Hearing and recognizing contractions	2.55	2.88	2.90
29. Knowing alphabetical order	2.78	2.33	3.00
30. Using picture dictionary	2.78	2.00	3.40
31. Using word lists or word cards	3.00	2.78	3.50
32. Selecting right meaning of word	2.67	2.33	3.10
Comprehension skills:			
33. Following directions	3.00	3.11	3.30
34. Using punctuation as aid to meaning	3.00	2.44	3.10
35. Following sequence of story	3.27	2.78	3.10
36. Visualizing characters, events	2.88	3.00	3.20
Interpretation skills:			
37. Classifying things	2.44	2.33	3.00
38. Distinguishing fact from fantasy	2.78	2.33	3.40
39. Finding main idea or moral	2.67	2.22	3.00
40. Predicting outcomes	2.55	2.00	2.70
41. Using parts of a story	2.55	2.67	3.10
42. Asking relevant questions	2.44	2.33	3.10
43. Drawing conclusions from evidence	2.78	2.67	3.20
44. Relating story to own experience	3.00	2.78	3.50
Time orientation:			
45. Relating past, present, and future	2.44	2.33	3.00
46. Being punctual in work habits	2.44	2.22	3.20
47. Planning for the future	2.44	1.89	3.20
48. Accepting change in routine	2.55	2.33	3.30
Space orientation:			
49. Understanding spacial relationships in stories	2.33	1.55	3.00
50. Learning how to describe spacial relationships	2.44	2.67	3.10
Social orientation:			
51. Understanding roles of family members	2.55	2.33	3.60

TABLE XIII (continued)

ITEM	BR MEAN	TESL MEAN	LEA MEAN
Social orientation (continued):			
52. Understanding roles of school people	3.11	3.22	3.60
53. Learning to get along with others	3.22	2.88	3.50
Societal orientation:			
54. Understanding the need for school	2.88	2.88	3.40
Overall ratings:			
Method and materials	3.33	2.67	3.30
Method without regard to materials	3.33	3.11	3.30
Materials alone	3.44	2.88	3.30

*This table follows the organization of the Final Teacher Questionnaire, which may be found in Appendix E. The Final Teacher Questionnaire, in turn, followed the organization of the Skill Book, which may be found in Appendix D.

In the preparation of the table, ratings of A were given a value of four, B were given three, C were given two, D were given one, and ratings of E were given a value of zero. The ratings were then summed and divided by the number of teachers in the group who responded. The number of BR teachers was nine, as it appeared that one teacher misread the instructions and her responses could not be counted. The number of TESL teachers was nine, and the number of LEA teachers was ten.

interpretation skills, time orientation, and space orientation. They rated their method relatively high, and the materials used even higher.

The TESL teachers didn't seem to rate any general area consistently high or low, but they rated their approach strongest in learning the sound patterns of English sentences, learning basic English sentence patterns, oral vocabulary, telling stories, following directions, visualizing characters and events, and understanding the roles of school people. They felt the approach was weakest in hearing and recognizing short vowels, recognizing the number of syllables in a word, putting phonograms together to make words, planning for the future, and understanding spacial relationships in stories. They rated their method relatively high, but the materials lower.

The LEA teachers rated their approach highest in reading readiness skills, comprehension skills, interpretation skills, time orientation, space orientation, social orientation, and societal orientation. They rated their approach weakest in both phonological and grammatical skills of transition from Spanish, and in many of the specific word study skills. They rated their method relatively high and the materials the same as the method.

VIII. DISCUSSION OF RESULTS

The results were subject to limitations imposed by the assumptions and delimitations listed in Chapter II.

Of particular interest from the statistical standpoint was the assumption that the characteristics of the population for variables of concern in the study were of a nature such that adequate measures on them would reveal normal curve distributions. This assumption was open to question in respect to some of the minor variables in the study, such as the value of the child's house and the number of families on welfare. In all likelihood, however, the assumption was essentially valid in respect to the major variables of reading readiness, intelligence, and reading achievement. The assumption did not require that the mean of the Spanish-speaking population be identical to the mean of any other population, rather it was assumed that the shape of the distribution curve would be normal.

Corollary to the above assumption was a consideration of the adequacy of the measuring instruments. Efforts were made on both statistical and logical grounds to eliminate variables on which the instruments did not give adequate performance. A large number of instruments were used so that some could be eliminated, and enough would remain to insure reliable results. For the dependent variables on reading achievement, the contingency that the test of established reliability (the Stanford) might prove too difficult for the population was covered by the use of an additional test which appeared to be much easier (the Test of Reading). Actually, the mean scores on the four Stanford tests used in the analyses as reported in Table IV were equivalent to a grade level score of 1.7, for each of the four tests, according to the established norms for the tests found in the test booklets. It appeared from this that the Stanford was not too difficult for the purpose of the study. The Test of Reading apparently was also quite appropriate, judging from the relatively high correlations between it and the Stanford.

A few of the pretest and environmental variables identified were not well measured, and the scores on them had to be eliminated. It is possible that some of these variables influenced the outcome, or some variables that were not measured influenced the outcome.

A further limitation was in vocabulary control in respect to the testing instruments used. No check was made on the actual words taught in any of the three approaches to see if they were equally represented in the achievement tests. It would have required a rather elaborate system of checking on the words actually learned by LEA pupils to determine whether or not the vocabulary tests discriminated against the LEA group. An examination of the Stanford vocabulary test revealed a few items, out of the 35 correct answers, that might have been outside the actual experience of the Spanish-speaking child but taught by vicarious experience in the basal readers, items such as "sea," "camp," "chief," and "speaker." Of the 30 items in the Test of Reading vocabulary test, only "queen" appeared to be of such a nature, and this test appeared to be quite appropriate in general. To the extent that the selection of words used in the test was a discriminating factor, the scores on several of the other tests might have been somewhat affected, also.

In addition, of course, a limitation was present in the actual teaching approaches. The materials and teacher's guides for each of the approaches might have been better suited to the needs of the children. It is possible that the results would have been different if another basal reader, or another set of TESL materials, or another set of LEA guides had been used.

CHAPTER VI

CONCLUSIONS

Chapter VI presents a brief summary of the study, the conclusions of the study, and recommendations for further research.

I. SUMMARY

This study was one of 27 studies on first grade reading instruction which was supported by the United States Office of Education's Cooperative Research Program during the 1964-1965 school year. A Coordinating Center for all 27 studies was located at the University of Minnesota. The Coordinating Center and the meetings of directors of the 27 studies were of assistance to the investigator in the selection of instruments and data collection procedures in the present study.

The purpose of the study was to compare a basal reader approach, a teaching English as a second language approach, and a language-experience approach in respect to their relative success in developing English language arts skills, particularly reading skills, with first grade children from Spanish-speaking homes. A second purpose was to obtain and organize information on a sequence of skills that are needed by children from Spanish-speaking homes who are learning to read in English, and identify appropriate materials and techniques for teaching these skills in a culturally integrated first grade classroom. The sample group included 333 children in 29 classrooms in 15 school districts in Colorado. Each classroom contained children from both English-speaking and Spanish-speaking homes, but only the latter children participated in the study.

The participating children were taught with a basal reader approach in ten classes, using materials designed for teaching reading to English-speaking children. In another nine classes, the participating children were taught with a teaching English as a second language approach, using materials designed for teaching oral English, reading, and writing skills to Spanish-speaking children. In a third group of ten classes, the participating children were taught with a language-experience approach, using specially prepared units designed to teach all language arts skills with the pupil's own language expression about his experiences. In all three approaches, the materials were new to the teachers. All three approaches were modified as needed to fit the needs of the children. The teachers were assigned at random to the three experimental approaches. The approaches were used for 140 school days during the 1964-65 school year.

Seventy-five pretest and environmental variables which might have affected the outcome were identified and measured. Factor analyses on the pretest and environmental measures and correlation coefficients between these measures and reading achievement scores on the posttests were used to identify 15 subfactors, from which appropriate subfactors were chosen for use as covariates in ten analyses of covariance. The dependent variables included scores from 25 posttests, grouped with the aid of a factor analysis and intercorrelations.

The results of the analyses of covariance showed that the hypothesis of no difference between the three approaches could be accepted in reference to understanding spoken English, and in reference to writing mechanics skills. Such an hypothesis should be rejected in favor of the basal reader approach alone in reference to reading readiness skills, reading vocabulary, word recognition skills, attitude toward reading, and general reading achievement. The hypothesis should be rejected in favor of both the basal reader and TESL approaches in reference to oral vocabulary and reading comprehension. In reference to writing fluency, the hypothesis should be rejected in favor of the LEA and TESL approaches.

II. CONCLUSIONS

Before stating the conclusions, it would be well to review briefly some delimitations of the study and limitations on the results.

The children participating were not chosen at random from the population of children from Spanish-speaking homes in the Southwest, so the extent to which the conclusions of the study would apply in other schools would depend upon the extent to which the other school situations were similar to the schools in the study. The sample in the study was largely from the New Mexico culture group, as compared with the Mexican-American culture group; and approximately two-thirds of the sample group lived in rural areas. These delimitations may have a bearing on the conclusions which relate to the community, but they probably would have little bearing on the conclusions which relate to the experimental approaches used. Additional delimitations which might relate to the community and school were these: the sample group children were in classrooms integrated with English-speaking children; they came from families of generally low socio-economic status; they understood and could speak some English; most of their parents spoke both English and Spanish to some degree; and the teachers in the study were selected for their extensive experience and high competence.

The teacher performance expected in each of the experimental approaches in the study was limited to that which could be expected of a good teacher after a short training session and with supervision of a type which could reasonably be put into practice on a wide scale. This was not a laboratory study. The materials in each approach were new to the teachers, and the approaches, including the organization of both the content and the activities, were new to the TESL and LEA teachers. The results might have been different if the teachers had used the experimental approaches for a year or two prior to the study. However, in respect to this delimitation, there were indications that the TESL and LEA teachers were performing as expected in their respective approaches. These indications came both from the supervision and from the results. The results indicated that the actual performance in the three groups was decidedly different, with the TESL generally favoring oral skills, the basal reader approach favoring reading skills, and the LEA favoring writing skills.

As a further delimitation, it must be recognized that the approaches used could not be separated from the materials used to represent them. The use of a different basal reader series, a different set of TESL materials, or a different set of LEA guides might have led to a different result.

The measuring instruments used in the study were of limited effectiveness in certain ways. A few of the pretest and environmental variables identified were not well measured, and these or other variables not measured might have had some effect on the outcome. The reading achievement tests were not checked to see to what extent they might have favored any particular approach in respect to the words taught.

Aside from the foregoing qualifications, the following conclusions appeared to be justified by the study:

(1) The basal reader approach was found to be equal to or better than the other approaches on nine of the ten hypotheses. Thus, in comparison with the TESL and LEA, the basal reader approach as used in

the study should be recommended for teaching reading to first grade children from Spanish-speaking homes wherever the community, school, and population characteristics approximate those in the study and whenever the children are found to be ready to begin formal reading instruction. This conclusion is not so strong as to suggest that a teacher who wants to try another approach should be discouraged from doing so. Undoubtedly, the variability between classes and individuals in the study was greater than the variability between experimental approach groups. However, the conclusion is strong enough to suggest that school district efforts toward the improvement of reading instruction for children from Spanish-speaking homes be directed toward the more effective use of basal readers and the use of improved basal readers rather than discarding the basal readers in favor of something else. It should be remembered that the basal reader approach used in the study was somewhat modified to meet the special needs of children from Spanish-speaking homes.

(2) A combination of the TESL and LEA approaches has been widely used at preschool and kindergarten levels for the development of oral English skills and experience background. Nothing in this study should be construed as unfavorable to this practice.

(3) At the first grade level, the TESL approach was found equal to or better than the other two approaches on five of the ten hypotheses, including both hypotheses on oral language skills and both hypotheses on writing skills. The TESL teachers rated their approach high on many oral language skills. It appeared that the TESL approach as used in the study could be recommended for developing oral language and writing skills with first grade children from Spanish-speaking homes.

(4) At the first grade level, the LEA was found equal to or better than the other approaches on three of the ten hypotheses, including both hypotheses on writing skills. The LEA teachers rated their approach high on many of the culturally-related skills, such as time orientation, space orientation, social orientation, and societal orientation skills. It appeared that the LEA as used in the study could be recommended for developing writing skills, and that it might have certain culturally-related benefits when so used with first grade children from Spanish-speaking homes.

In addition to the conclusions above which related to the experimental approaches, in fulfillment of the first objective of the study, certain conclusions listed below appeared to be justified by the correlations obtained on total group measures in the study and are presented in partial fulfillment of the second objective, However, some of the conclusions expressed below depend upon some sort of cause and effect relationship as indicated by a correlation coefficient. This is risky generalization, and it should be kept in mind that the existence of a correlation does not prove a cause and effect relationship. However, it does indicate a strong possibility of a causal relationship or a common causality. Whichever is the case, the relationship indicates something worth investigating by schools seeking to improve reading instruction for children from Spanish-speaking homes.

(5) Although not included as a covariate for technical reasons, there was a significant positive correlation between the reading of supplementary books and reading achievement. It would appear that the reading of supplementary books contributes to reading achievement by first grade children from Spanish-speaking homes.

(6) Whatever can be done to improve the following pupil conditions prior to the child's entrance into first grade should increase reading achievement by children from Spanish-speaking homes: listening comprehension; reading readiness as measured by reading readiness tests; intelligence as measured by group tests in English, Spanish, or non-language; health and mental health as rated by teachers; ability to speak and understand English; perceptual speed; and attendance.

(7) Whatever can be done to improve the following teacher conditions in first grade should increase reading achievement by children from Spanish-speaking homes: teacher competence, the teacher's understanding of and attitude toward the method and materials being used, and the amount of time (within reasonable limits) spent on supplementary phonics instruction with a sequential method. Supplementary phonics instruction with an incidental method was not found to be helpful.

(8) The median income of families and unrelated adults in the community census tract and the teacher's score on the basic scale of the Teacher Inventory of Approaches to the Teaching of Reading represent factors which correlate negatively with reading achievement by first grade children from Spanish-speaking homes.

In discussion of the above conclusions, it might be noted that the findings in respect to the TESL approach were consistent with the findings of Cooper and of Agard and Dunkel reported in Chapter III. In both studies, it was found that a concentration on oral English skills failed to teach reading skills. In the present study, a concentration on oral skills, even with reading taught with the same words and sentences practiced orally, failed to teach reading well except for comprehension. The investigator felt that the TESL finding on comprehension was to be expected, as the linguistic emphasis on the normal sound and rhythm of sentences in the TESL approach was felt to be helpful in comprehension as compared with the typical slow, choppy rhythm of first graders learning to read with a basal reader. On the Final Teacher Questionnaire, the TESL teachers rated their approach high on comprehension skills.

In respect to the LEA, the investigator was somewhat surprised by the finding, for in his visits to the classrooms it appeared that the LEA children were the best readers. This, of course, was true, as they made the highest scores on the unadjusted means of the reading achievement tests. It was not obvious from observation that the LEA children started with superior readiness and intelligence and would have been expected to achieve still more than they did.

The investigator did feel from observation and supervision that the LEA had one serious drawback for use with children from Spanish-speaking homes. It appeared to be impossible to control the introduction of new sounds, new words, new phonics principles, and new sentence structures in a sequential manner using small steps that build from simple to complex. This may be of no consequence to mature English-speaking children who are capable of integrating their new learning with what they know. But with Spanish-speaking children who have many gaps in their understanding of the words and structures of English, it appeared that the large learning steps and lack of sequence required more integration and organization of knowledge than the children could master. LEA teachers appeared to support this view, as they rated their approach low on phonological and grammatical skills of transition from Spanish, and on many of the word study skills on the Final Teacher Questionnaire.

Balanced against this, on the other hand, were many apparent advantages in the LEA. It appeared that LEA children were learning to be more independent of the teacher, to use learning tools such as lists and picture dictionaries to better advantage, and to develop a system of motivation for reading which was less dependent upon competition and extrinsic motivational devices. It will be recalled from Chapter III that the above points were noted as needs of the Spanish-speaking child in respect to his cultural value system. The LEA, too, seemed better adapted toward accepting the child as he was in respect to his thinking patterns and cultural habits, and helping him progress from there. The basal reader tended to assume much about the child's identification with story characters and understanding of their behavior patterns and motivations. The validity of such assumptions needed continual checking by the teacher in the basal reader approach. In the LEA, such checking was automatic, through the child's own expression which was used to build language skills.

In the TESL approach, such cultural implications and attention to thinking patterns were largely ignored, in order to concentrate more fully on language habits. The stories were about animals (such as "The Three Bears"), or were of short duration and designed for language practice rather than interpretation. The investigator felt that the TESL approach had certain linguistic advantages because of such a concentration, but that it had deficiencies in respect to cultural implications such as understanding past, present, and future relationships in stories. The literature reviewed in the first section of Chapter III pointed out that the cultural implications of instruction should not be ignored. The investigator felt they should not be ignored even for an hour a day, as they seemed to be in the TESL approach.

Conclusions (5), (6), and (7) relate to the correlations between potential covariates and the Test of Reading scores used in the study. Since the factors noted in the conclusions correlated positively and significantly with the criterion, it appears that school districts seeking to improve reading instruction for children from Spanish-speaking homes should examine the situation among their own pupils in respect to these factors. It may be found that no cause and effect relationship exists, but a third factor is providing common causality. Even so, an examination of the factors mentioned may lead to insight on how to improve reading instruction. As an example, listening comprehension was found to be the most powerful covariate in this study in respect to the coefficient of correlation between measures at the start of the study and a measure of reading achievement at the end. It appears likely that extra attention toward building English listening comprehension skills among pupils from Spanish-speaking homes prior to their entrance into first grade would yield significant dividends in reading achievement.

Conclusion (8) relates to two factors found to correlate negatively with reading achievement. Here the cause and effect relationship is not clear at all, and additional study of these factors would be helpful. It may be that something about living in a high income community is disadvantageous to the child from a Spanish-speaking home. It may be that high income communities have provided kindergarten for all children whose parents could transport them to school, and the Spanish-speaking families, in general, could not; thus making a larger gap in achievement between Spanish-speaking children and others than if there had been no kindergarten for any children. It may be that fewer adaptations to the special needs of the Spanish-speaking children were made in higher income communities, and by teachers scoring high on the

San Diego instrument. Whatever were the sources of the negative relationship, they were effective in retarding reading achievement among the pupils in this study.

Much of the breadth and depth of this study was undertaken in partial fulfillment of the second objective of the study, that of obtaining and organizing information on a sequence of skills that are needed by children from Spanish-speaking homes who are learning to read in English, and identifying appropriate materials and techniques for teaching the skills in a culturally integrated first grade classroom. Conclusions (5), (6), (7), and (8) related to this objective. However, the heart of the fulfillment of this objective may be found in the Skill Book in Appendix D. The Skill Book Outline is an identification and organization of the skills thought to be needed by children from Spanish-speaking homes who are learning to read in English. Time did not permit the amplification and completion of the section write-ups beyond those which were actually used in the study. However, this would be a worthwhile project for the future, especially for use with the basal reader approach.

III. RECOMMENDATIONS FOR FURTHER RESEARCH

The present study was by no means fully conclusive. A replication of the study would be helpful. Improvements might be incorporated, including the following: (1) at least three years of controlled teaching with the experimental methods, (2) the use of newer materials for the approaches with emphasis on overcoming the deficiencies noted by teachers in the methods and materials used in the present study, (3) the use of teachers with at least a year of experience teaching the experimental approach before the study took place, (4) the inclusion of other possible approaches such as programed learning, (5) the use of a system of vocabulary control to improve the validity of the achievement tests, and (6) use of a more extensive plan for in-service training and supervision of teachers.

Much research appears to be needed on the cultural aspects of instruction for children from Spanish-speaking homes. Specific objectives in terms of cultural behavior and thinking patterns might be formulated for such children. Measuring instruments might be found or devised to measure achievement in terms of such objectives. A research project might then be devised to compare the regular approaches used in teaching reading, English, social studies and other subjects with one designed to promote the desired acculturation.

It was suggested in the present study that a negative relationship exists between the median income of the community and the achievement in reading by children from Spanish-speaking homes. Such a relationship should be thoroughly researched to find out under what conditions it exists, what the causes and effects seem to be, and what can be done to improve the situation.

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APPENDICES

APPENDIX A

SCHOOL DISTRICTS AND TEACHERS WHO PARTICIPATED

Superintendent	County & District	Teachers	School & Town
Elvin A. Burgess	Archuleta 50 Jt.	Frances K. Botsford	Pagosa Springs
		Pauline Trujillo	Pagosa Springs
Harry A. Allen	Bent Re-1	Jeanette Smith	Rixey, Las Animas
Roy G. Brubacher	Conejos Re-1J	Vera Brothers	La Jara
		Rose Gallegos	Romeo
		Grace Nielson	Romeo
		Ada Shawcroft	La Jara
Sister Leander, O.S.B.	Conejos-Re-10	Theodora Madrid	Antonito
Silver R. Jaramillo	Costilla R-1	Josephine Carpenter	Centennial, San Luis
		Viola G. Vigil	Centennial, San Luis
Robert E. Dunn	Costilla R-30	Helen L. Gonzales	Sierra Grande, Blanca
M. M. Drake	Delta 50-J	Grace Whiteside	Garnet, Delta
John S. Mall	Huerfano Re-1	Ruth E. Clair	7th St. Walsenburg
		Filda Manzanares	Hill, Walsenburg
I. K. Boltz	Larimer R-1	Genevieve T. McMahon	Remington, Ft. Collins
Eugene J. Coburn	Otero 3-J	Margaret Heflebower	Manzanola
Cecil Mullins	Pueblo-70	Virginia Bolin	Boone
		Clara M. Priebe	No. Mesa, Pueblo
		Clara M. Savage	So. Mesa, Pueblo

SCHOOL DISTRICTS AND TEACHERS WHO PARTICIPATED (continued)

Superintendent	County & District	Teachers	School & Town
		Marjorie D. Wells Barbara West Joan White	So. Mesa, Pueblo Avondale Avondale
Orville L. Gountryman	Rio Grande C-7	Mary L. Coolbroth Ruth H. Woods	Del Norte Del Norte
Wayne Bricker	Rio Grande C-8	Ann Hocker Juanita Kelley Margaret L. Simons	Monte Vista Primary Monte Vista Primary Marsh, Monte Vista
Delmar I. Peterson	Weld Re-5J	Mary Holzmeister	Milliken
Dr. Leslie K. Grimes	Weld 6	Helen Fleischmann	Park Wash., Greeley

APPENDIX B

WORKSHOP REPORTS

Appendix B contains reports on three separate workshops, one for each experimental group, reproduced as they were summarized by the investigator for reference by the participating teachers. The term "Modified Basal Reader Group" or "MBR" was used interchangeably with "Basal Reader Group" or "BR."

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RESEARCH PROJECT 2734 SECOND WORKSHOPS

SUMMARY OF INFORMATION PRESENTED TO ALL TEACHERS

A series of three workshops were held at Widefield High School, Security, Colorado, on August 18, 19, and 20, 1964, in order to help participating teachers become proficient in using the teaching plan to which they were assigned. Each teacher attended the workshop on her own teaching plan. This report is a summary of the information presented to all three groups of teachers.

Organization of the Classroom. The criteria applied last Spring for the selection of classrooms to participate in the study were as follows: each classroom should have between 12 and 20 children from Spanish-speaking homes, plus a balance of children from English-speaking homes to make a total class size of 25 to 30. Now that the classes have been selected we will not drop any classes from the study because the criteria cannot be exactly met. However, we hope that each classroom can come close to having about 15 to 17 Spanish-speaking children.

Spanish-speaking children are defined as children who ordinarily speak Spanish at home regardless of how well they speak English. Children who know some Spanish but ordinarily speak English at home do not qualify. Also, the children to participate in the study must be permanent resident children who are likely to remain in the school for the entire year.

Children participating in the study may be dropped from the statistical analysis for any of a number of reasons, such as excessive absence during the teaching period, absence during tests, etc. One reason may be that the teacher feels the child would make greater progress in the English-speaking group and she transfers him out of the experimental group. Because we will end up with a smaller group than we start with, it will be important to see that absences are held to a minimum. Any help that the principal, nurse, community workers, etc. can give in providing needed clothes or health services will be very much appreciated.

Children dropped from the statistical analysis need not necessarily be dropped from the experimental group for teaching purposes. However, children entering the class after the initial testing period begins (September 14) should not ordinarily be placed in the experimental group for teaching unless it has become small (under ten or so).

Teaching Plan Before Study Begins. Teachers may use their regular procedures for teaching the class prior to the start of the instructional period. The instructional period of 140 days will begin the school day after the final tests of the initial series.

Help During Testing Period. The testing period will begin September 14 and last about three weeks. After the first two or three days of the testing period, teachers will need to arrange to have someone take the non-experimental group children out of the classroom for about

30 minutes in the morning. In the case of a few of the tests, it may be desirable to limit the size of the group being tested to not more than ten, in which case some of the experimental group children may have to leave for 30 minutes also. The 30 minute testing periods are not always one sitting; some may be two periods of about 15 minutes each. Thus, the plan for taking children from the room should have some flexibility if possible. More detail on the testing period is to be presented at the testing workshop September 12.

Information for Parents. It will be very important that parents, other teachers, school board members, etc. understand what we are doing in this study. Participating teachers should arrange with their principals to present an explanation of the study and the experimental teaching plan to be followed. Such explanation might be presented by letter, or by a talk at a PTA meeting, etc. Information in any of the written materials prepared for this study (except copyrighted commercial material) may be reproduced for this purpose.

Use of Basal Reader or Supplementary Phonics Material. For the purpose of this study we must have a release from any requirement to teach the regular basal reader material used by the district. Such readers may be used for supplementary reading outside of the one hour a day devoted to the experimental teaching plan. But this does not mean that the experimental group should be taught reading twice - once with their plan and again with the non-experimental group using a basal reader. Second grade teachers may be assured that all three of our teaching plans are designed to teach the skill content of the first grade readers at least as well as the readers can do it.

It is possible to provide for the use of supplementary phonics material outside the experimental teaching plan time. If this is to be done, however, we must balance the number of classes using such material in each experimental group. Special arrangements should be made with the Project Director.

Project Reporting Forms. Copies of an expense form, teacher's weekly report forms, and mailing envelopes were distributed and discussed at the workshops.

The expense reimbursement form will be used for both travel expenses and the salary payments for preparation time. Participating teachers should bring three copies to the September 12 workshop. Thereafter, beginning in October, they should submit one set (in duplicate, plus keeping one copy) per month through April, 1965, making a total of ten $25 payments, including the June, August, and September workshop payments.

The weekly report forms should be made out in duplicate, sending one to the Project Director and keeping one as a record of what has been done during the year. One copy will be used for the period up to the start of the instructional period.

SECOND WORKSHOPS - SUMMARY OF GENERAL INFORMATION

The pupil information form will be sent to teachers at a later time. In the meantime, the regular school records on each child should be kept. At such time as the pupil information form is filled out, it will be necessary for someone on the school staff to make one home visit to obtain specific information.

Testing Workshop. The final workshop for participating teachers will be held on Saturday, September 12, from 10 a.m. until 3 p.m. with one hour off for lunch, at Widefield High School, 615 Widefield Drive, Security. At this time the testing procedures for the initial series of tests will be explained. In addition, the fill-in of materials not available for distribution to teachers at the second workshops will be made.

COLORADO STATE DEPARTMENT OF EDUCATION
Office of Instructional Services

READING RESEARCH PROJECT 2734 BASAL READER GROUP

WORKSHOP REPORT

The workshop on the teaching plan for the Basal Reader Group was held August 18, 1964 at Widefield High School in Security. All ten teachers in the group were in attendance. This report is a summary of the information presented which was pertinent only to this experimental group.

Materials Distributed. Most of the items on the list of "Commercial Materials" for this group were distributed to the teachers. Materials not available at this time are to be distributed at the testing workshop September 12.

All materials not already marked "U.S. Coop. Research Project 2734" should be so marked by the teachers. The Project Director will bring a rubber stamp for this purpose on his first visit to each teacher.

Teaching Plan. Teacher's Guides for the readiness books and pre-primers for the Betts Basal Readers (American Book Company, 1963) had been mailed to the teachers about a week before the workshop. Guides for the primer, first reader, study books and tests were presented at the workshop.

The teacher's guides are to be the heart of the teaching plan for this group. An excellent reading program is built into the Betts series, and we intend to take full advantage of its strengths. We will modify it only as needed to meet the special needs of Spanish-speaking children.

Some time was spent discussing the readiness books and pre-primers. They present a wealth of pictures useful both for developing an English oral vocabulary and familiarity with English oral sentence patterns. Teachers were encouraged to go rather slowly through these books, taking time to develop readiness for the book activities where needed. For example, on page 14 of Fun for All there are items of clothing and items in the party scene with which some children may not be familiar. The teacher will need to do more than introduce the English words for such items; she may need to plan excursions, use audio-visual aids, have the children prepare picture scrapbooks, use role-playing and creative dramatics, etc. in order to build a comprehensive understanding of each concept. The use of pupil-dictated experience charts, both group and individual, is suggested as a means of supplementing the concept and vocabulary development activities of the Betts books.

Some specific suggestions for adapting the Betts teacher's guides to our needs have been made for us by Dr. Mildred Bebell, the consultant for this group:

1. Provide a rich visual environment in the classroom, with pictures, objects, labels, etc. that are related to the books.

2. Use centers wherever possible to allow for small-group experiences and individual development of motor coordination, concept development, oral expression, visual and auditory discrimination, etc. Examples of centers that might be helpful are:

a. a center on growing things
b. a miniature farm or airport
c. a center for observing and caring for turtles, fish, bugs, cocoons, etc.
d. a magazine clipping center
e. a center for working with objects for counting and classifying (5 marbles, 2 cows, equal numbers of sticks, etc.)
f. an art materials center with materials for drawing, painting, pasting, cutting, modeling, etc.

3. Try to correlate all subjects to the Betts materials for steady concept development and vocabulary growth. There are science, social studies, and math concepts throughout the books. Correlate by pointing out similar learnings when you come upon them in the Betts books (during reading class), and by using the Betts books as resource materials in other subjects than reading.

4. Although you are asked to spend about an hour a day using the Betts books with the experimental group children, keep your time schedule flexible. When other class activities (such as an excursion, arithmetic lesson, story hour, etc.) can be specifically correlated with the Betts books, or when the Betts books can be used in such activities, count this as experimental group reading time. The aim is to use the books in classroom real-life situations so that they become more than skill development resources, but also resources for information and fun.

5. Do not feel that it is necessary to cover every story and every exercise or page in the books. If one of the stories about an adventure of Jim and Sue Parker does not seem appropriate or interesting to the children, skip it. In such a case, make up extra time on new words as they come up later.

6. An informal check-list such as those on pages G2 and G3 of the Teacher's Guide for Fun for All should be used to determine the readiness of each child to continue in the books. Where a child or group of children seem unready, extra readiness activities should be planned.

7. Although you may subdivide the experimental group as you wish for efficient teaching, the grouping procedures suggested in the teacher's guides may or may not be appropriate for our purposes. Use your own judgement, but please report to the Project Director in the Weekly Report any plan of grouping that you use other than total group teaching.

8. Be on the lookout for a short attention span as an indication of a lack of understanding, interest, or readiness on the part of the

child. A short attention span is caused by something. The same child might spend two hours straight in front of the TV set or playing with appropriate toys! With any prearranged sequence such as a basal reader, the problem of appropriate motivation is ever-present. If the motivation doesn't come some days, and nothing you try seems to work, forget it for the time being. Let the children go out and play. There is always the danger of teaching children not to listen and read while we are trying to teach them how to listen and read.

Use of the Skill Book. The Skill Book outline was distributed at the workshop. Fill-in pages are to be sent later as they are prepared. Teachers are asked to be on the lookout for activities that teach the skills listed and contribute them to the other teachers by means of the Skill Book.

The Skill Book outline serves as a list of the more important objectives of first grade reading instruction for Spanish-speaking children. Each of the approaches to be tried in Project 2734 has certain strengths and certain weaknesses in relation to the objectives. Thus some of the fill-in pages for the Skill Book will be of particular importance to the Basal Reader Group (those on areas of weakness for this approach), while others will be of more importance to other experimental groups. The areas of strength and weakness of the Basal Reader approach were identified at the workshop as being the following:

Strengths: II.A.; III. except C., G., and J.; IV.; V.; and VI. except B.

Weaknesses: I.; Some parts of II.B.; III.J.; VI.B.

BR group teachers are asked to pay particular attention to the Skill Book sections listed under "Weaknesses" above. For Section I., many activities for teaching the correct forms of these items may be found in the Texas Preschool Instructional Program for Non-English Speaking Children. For Section II.B., errors and misunderstandings that appear in class should be given special attention. For Sections III.J and VI.B, a language-experience type of approach is suggested for a part of the instructional time.

In addition to Skill Book pages, newsletters for the BR group will be sent from time to time as a means of communication both from the Director and among the teachers. Any teacher with ideas to share is asked to send them in for the newsletters or Skill Book.

COLORADO STATE DEPARTMENT OF EDUCATION
Office of Instructional Services

RESEARCH PROJECT 2734 "TESL" GROUP

WORKSHOP REPORT

The workshop on the teaching plan for the TESL (Teaching English as a Second Language) Group was held August 19, 1964, at Widefield High School in Security. All teachers in the group were in attendance except Mrs. Clara Savage, who was represented by her Principal, Mr. Samuel F. Ingo. This report is a summary of the information presented which was pertinent only to this experimental group.

Materials Distributed. Most of the items on the list of "Commercial Materials" for this group were distributed to the teachers. Materials not available at this time, including the pupil's books of the Bumpass We Learn English series, are to be distributed at the testing workshop September 12.

All materials not already marked "U.S. Coop. Research Project 2734" should be so marked by the teachers. The Project Director will bring a rubber stamp for this purpose on his first visit to each teacher.

Teaching Plan. Teacher's Guides and copies of Books I to VI of the We Learn English series by Dr. Faye L. Bumpass (American Book Company, 1958-63) had been mailed to the teachers about a week before the workshop. Also mailed was a packet of materials prepared for the Project by Dr. Bumpass, containing:

1. Sample lesson plans
2. A detailed teaching plan for Books 1 through 4 of the We Learn English series, covering 28 weeks at two periods per day, approximately 20 minutes per period
3. A detailed teaching plan for additional activities to correlate with the We Learn English series, covering 17 weeks at one period per day with approximately 20 minutes per period; additional activities for weeks 18 through 28 were suggested and are to be detailed at a later time.
4. A monograph on the steps in Dr. Bumpass' method of teaching reading
5. A monograph on "Acculturation Projects" by Dr. Bumpass
6. A monograph on "Helping Spanish-Speaking Children Acquire a Functional Use of English as an Aid in Developing Essential Reading Skills" by Dr. Bumpass.

The teaching plans written for us by Dr. Bumpass are to be followed closely by this group. These plans provide a very strong program of aural-oral development. A transition to reading is made, providing a sight vocabulary of 243 words in the four books to be used. Phonics and other word recognition skills are given extensive development at appropriate points in the plans.

A discussion and sample presentation of Dr. Bumpass' method of teaching was presented by Mr. McCanne and Mrs. Juanita Kelley, who had both attended a workshop with Dr. Bumpass at Adams State College earlier in the summer. Slides of some of Dr. Bumpass' visual aids were shown. Mrs. Kelley presented the story of the Three Bears, using the flannelboard materials and technique as described in Dr. Bumpass' professional book, Teaching Young Students English as a Foreign Language (American Book Company, 1963). This book was available for reference at the workshop, and was to be mailed to each TESL Group teacher as soon as it arrived.

In the course of the discussion the following points were brought out:

1. This method depends heavily on the use of visuals with a technique that makes obvious connections between words and their visual or action referents. The technique is fully described in the materials by Dr. Bumpass. Teachers will need to be thoroughly familiar with the technique, even to the point of practicing with the flannelboard before class. The connection of an English word with its visual or action referent wherever possible in the stories is to be the main source of vocabulary growth. However, translations of words and phrases from Spanish are given in the pupil's books at the bottom of each page, and may be used by the teacher where she feels it is necessary.

2. The repetition of words, phrases, and sentence patterns in the books is deliberate and for valid reasons. However, we don't want to be limited to these words and sentence patterns alone. Whenever it is appropriate at the end of a lesson, ask individual children to tell their own stories about experiences related to those in the book. This should be easy, as the experiences in the books are well chosen to appeal to children in any language. However, this may take some planning on the teacher's part.

3. In the extension of the oral experiences at the end of appropriate lessons, let's not worry about vocabulary control. When the teacher or children use a new word, seize upon it as a good thing. Then let's give some directed practice on using the new word correctly in a good oral sentence. Teach correct sound and grammatical structures of the sentences as well as new vocabulary concepts.

4. When the children begin reading, the same types of reading practice as provided in the books can be carried over to the extended and independent activities. When children tell their own experiences related to the stories in the books, the teacher may take some dictation on the chalkboard or an experience chart, then have the group and different children practice reading it. The more appropriate words derived from extension activities may be used for flash card drill in the same way as the words from the book. The illustration of stories dictated to the teacher may be an independent activity for some of the time not devoted to teaching the experimental group.

5. Note that everything in Books 1 to 4 is written in the present tense. In the extended activities at the end of the lessons, teachers

should introduce the past tense and future tense gradually, as they come up in telling related experiences.

6. Let's make full use of the songs, finger plays, dialogs, etc. in the texts, and let children make up additional ones wherever possible. We want to encourage the children to be creative with their new language whenever they are ready for this step, provided that the teacher guides their use of words and sentence patterns.

7. In addition to being creative, let's encourage the children to be critical and to do some real thinking in their new language. One way is to plan ahead to make some harmless but meaningful mistakes at appropriate points, and insure that the children pick them up and correct them. This will be easy to do on the number pages (such as pp. and 26 in Book 1), but it can be done on almost every page in some way. "Mistakes" should be ones of logic, not of the use of words or sentence patterns. For example, on page 10 of Book 1, as the sentences are practiced after they have been well introduced and the children have had some drill, new words can be substituted for "ball" in the sentence, "Run with the ball." Always pointing to the object or acting out the scene, the teacher can introduce, "Run with the pencil," "Run with the paper," etc. Then she can try, "Run with the door," and lead the children to realize the absurdity. The children might be taught to recognize absurdities and not repeat them in pattern drill. It is important to lead children to demand meaning from all language.

Use of the Skill Book. The Skill Book outline was distributed at the workshop. Fill-in pages are to be sent later as they are prepared. Teachers are asked to be on the lookout for activities that teach the skills listed and contribute them to the other teachers by means of the Skill Book.

The Skill Book outline serves as a list of the more important objectives of first grade reading instruction for Spanish-speaking children. Each of the approaches to be tried in Project 2734 has certain strengths and certain weaknesses in relation to the objectives. Thus some of the fill-in pages for the Skill Book will be of particular importance to the TESL group (those on areas of weakness for this approach), while others will be of more importance to other experimental groups. The areas of strength and weakness of the TESL approach were tentatively identified at the workshop as being the following:

Strengths: I.; II.; III. except I and J.; IV.A.1., B., and most of C.

Weaknesses: III.I. and J.; some parts of IV.D. and E.; V. and VI.

TESL group teachers are asked to pay particular attention to the Skill Book sections listed under "Weaknesses" above. In most cases these can be overcome by paying particular attention to them in social studies, "Show and Tell," story hour time, etc. Teachers should feel free to use seatwork that they have already prepared as independent activities for the experimental group children while the non-experimental group is being taught, with an emphasis on types of seatwork that will help overcome the weaknesses listed.

In addition to Skill Book pages, newsletters for the TESL group will be sent from time to time as a means of communication both from the Director and among the teachers. Any teacher with ideas to share is asked to send them in for the newsletters or Skill Book.

COLORADO STATE DEPARTMENT OF EDUCATION
Office of Instructional Services

RESEARCH PROJECT 2734 LANGUAGE-EXPERIENCE GROUP

WORKSHOP REPORT

The workshop on the teaching plan for the Language-Experience Group was held August 20, 1964, at Widefield High School in Security. All teachers in the group were present except Mrs. Pauline Trujillo, who was contacted individually after the workshop by the Director. This report is a summary of the information presented which was pertinent only to this experimental group.

Materials Distributed. Most of the items on the list of "Commercial Materials" for this group were distributed to the teachers. Materials not available at this time, including the easels, are to be distributed at the testing workshop September 12.

All materials not already marked "U.S. Coop. Research Project 2734" should be so marked by the teachers. For expendable materials, the outside of the box or wrapping may be marked. The Project Director will bring a rubber stamp for this purpose on his first visit to each teacher.

Teaching Plan. Dr. R. Van Allen is the consultant for this experimental group. A book by Lee and Allen, Learning to Read Through Experience (New York, Appleton-Century-Crofts, 1963), and a monograph by Allen and Halvorsen, The Language-Experience Approach to Reading Instruction (Ginn & Co. Contributions to Reading, No. 27) had been mailed to the teachers about a week before the workshop. Five teacher's guides by Dr. Allen were distributed and discussed at the workshop:

1. Language Experiences in the Kindergarten (Superintendent of Schools, Department of Education, San Diego County, California.)
2. Beginning Writing Experiences (Superintendent of Schools, Department of Education, San Diego County)
3. At Home and School (Superintendent of Schools, Department of Education, San Diego County)
4. An Overview of Classroom Studies Using a Language-Experience Approach in Reading Instruction, Grade One (Copyrighted material from a forthcoming publication by Dr. Allen)
5. Teacher's Guide, Classroom Study I, I Learn to Read and Write (Copyrighted material from a forthcoming publication by Dr. Allen)

Teachers were cautioned that no part of the above materials should be reproduced without the permission of Dr. Allen.

These guides will form the heart of the teaching plan for the Language-Experience Group. They provide a reading program which has many important strengths, including a guarantee of high motivation and skill development based on words that are appropriate to the learners. The guides will provide detailed help only during the first few weeks of the instructional period. After this the unit topics of interest to the class could and should be so varied that it would be unwise to have a prescribed detailed plan. The Project Director will work closely with each teacher on the development of extended plans.

At the workshop a tape recording and filmstrip were presented on "The Language-Experience Approach, An Overview," produced by the Department of Education of San Diego County. In addition, sample books and experience charts produced by children using a language-experience approach were displayed and discussed. Mr. McCanne related his experiences at a workshop with Dr. Allen, on the language-experience approach, at the University of Arizona earlier in the summer.

In the discussion several points of emphasis were brought out:

1. One of the most important strengths of the language-experience approach is that books are used only for their real purpose, that is, finding out information or reading for fun. No chance is taken that children will learn not to read instead of how to read because of boring books or inappropriate stories used for skill development lessons.

   Since books are used as all types of references, it will be important that teachers in this group gather a large collection of pre-reading, first grade level and second grade level books for a classroom library, preferably one which changes from time to time. Children should be allowed to browse, using the books as sources of ideas, pictures to copy, words to use, and information.

2. Since teachers will not have books with a prescribed vocabulary to teach, we must consider what words the children should learn. Dr. Allen has suggested an excellent approach to this in his sample unit, I Learn to Read and Write. When you consider that what we are really trying to teach is not words but a method of learning words, it seems very logical that the children should start with words and numbers that they already know and see around the school. Then they go on to words they find they need to tell about their own experiences. It will be found, as Dr. Allen claims, that the children will learn first the words they use most, and those will be the words on the Dolch list. There is a vocabulary control of a most appropriate type built in to this approach.

However, there is one additional problem in connection with Spanish-speaking children, because they will not know many of the words they need to express themselves in English. This need not stump us, but rather shows the need for an additional step in the procedure. This step is to spend a lot of time with the Spanish-speaking group introducing English lexical items before, during, and after each real or vicarious experience. Use the new words (derived either from teacher or pupil) in model sentences and have some oral drill on pronunciation and intonation patterns.

LANGUAGE-EXPERIENCE GROUP WORKSHOP REPORT

In this process, it is alright to refer to Spanish equivalents for some of the English words (derived either from pupil or teacher) if the teacher feels this will make the concept clearer. Two cautions should probably be observed, however: (1) translate only words or phrases, not whole sentences, because Spanish word order is often different and confusing; (2) be sure to get the right Spanish word (Example: there are 25 different Spanish words for the English word "look," depending on what meaning is intended and how it is used: look - mirar, look for - buscar, look like - parecer, plus different person, number, tense, and mood forms). In no case is it considered necessary to use Spanish in this approach, because the approach builds language from scratch, so to speak.

3. Teachers could use visual aids, actions, and real objects all they possibly can to provide referents for new vocabulary concepts. Field trips are excellent for this purpose. Count field trip time as experimental group teaching time. Filmstrips are also very good for this.

4. Take full advantage of the fact that a means of expression other than verbal language (painting and drawing) is being provided for each child. This is a most effective device for leading the child into expression with verbal language. Teachers should take time to discuss with the child everything to be seen in his picture. The child may practice saying words and sentences after the teacher so he can repeat them to the class.

5. It will be difficult and may be impossible in this approach to isolate the Spanish-speaking group from the rest of the class for language instruction. Too many interesting things will be going on. Therefore, teachers who would like to use the language-experience approach with the whole class are encouraged to do so. Teachers who do carry on a basal reading approach with the non-experimental group are cautioned not to include the experimental group in this approach, for the purposes of the research project.

6. Word recognition skills such as phonics play a very strong role in this approach. Before a few weeks have gone by many children will get tired of dictating their stories to the teacher and will want to write them by themselves. This provides the setting and motivation for both penmanship and spelling instruction. In spelling instruction the children will have great need for phonics (more than they ever would in reading). This is the time to introduce and teach lettersound correspondences and spelling patterns. A list of phonics learnings appropriate for first grade is contained in the Skill Book outline, and may be used as a checklist of what has been and should be taught.

Use of the Skill Book. The Skill Book outline was distributed at the workshop. Fill-in pages are to be sent later as they are prepared. Teachers are asked to be on the lookout for activities that teach the skills listed and contribute the ideas to other teachers by means of the Skill Book.

The Skill Book outline serves as a list of the more important objectives of first grade reading instruction for Spanish-speaking children. Each of the approaches to be tried in Project 2734 has certain strengths and certain weaknesses in relation to the objectives. Thus some of the fill-in pages will be of particular importance to the Language-Experience Group (those on areas of weakness for this approach) while others will be of more importance to other experimental groups.

The areas of strength and weakness of the language-experience approach are not as clear cut as those for other approaches, because they depend somewhat on the teacher's interests and methods. All teachers are asked to examine the Skill Book outline periodically to see whether they are slighting any areas of skill development. However, the following are tentatively identified as possible strengths and weaknesses of this approach:

Strengths: II.A.; III.; IV.; some parts of V.; and VI.

Weaknesses: I.; some parts of II.B.

An excellent resource for activities overcoming the possible weaknesses listed above is the Texas Education Agency Pre-School Instructional Program for Non-English Speaking Children, which was distributed at the first workshop.

In addition to the Skill Book pages, newsletters for the Language-Experience Group will be sent from time to time as a means of communication both from the Director and among the teachers. Any teacher with ideas to share is asked to send them in for the newsletters or Skill Book.

APPENDIX C

INSTRUCTIONAL MATERIALS

Appendix C contains lists of the instructional materials provided for each experimental group:

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COLORADO STATE DEPARTMENT OF EDUCATION
Office of Instructional Services

READING RESEARCH PROJECT 2734 ALL TEACHERS

MATERIALS TO BE FURNISHED

From American School Supply, 2301 Blake Street, Denver, Colorado:

Loose leaf binder, 11 x 8½", 3 ring, one
#5721TR Vertical file folders, letter size, straight tab, 100
#111-6 600 ft. Scotch recording tapes, two
#1500 Economy general duplicating bond paper, 11 x 8½", 4 reams

From Centennial School Supply, 2988-3014 Huron Street, Denver, Colorado:

Liquid and carbon master sets, purple, short run, 100

From the State Department of Education:

40 stamped, addressed envelopes
80 weekly report forms
40 pupil information forms
40 expense reimbursement forms
Skill Book

COLORADO STATE DEPARTMENT OF EDUCATION
Office of Instructional Services

READING RESEARCH PROJECT 2734 BASAL READER GROUP

COMMERCIAL MATERIALS

For Teachers, one copy each:

From American Book Company; Betts Basal Readers, Third Edition

- The ABC Fun for All (language readiness)
- The ABC Ready! Go! (reading readiness)
- The ABC Teacher's Edition for both readiness books
- Readiness Achievement Test
- Manual for Teachers (for Readiness Achievement Test)
- The ABC Big Book Stories
- The ABC On Our Way (first pre-primer)
- The ABC Time to Play (second pre-primer)
- The ABC All in a Day (third pre-primer)
- The ABC Teacher's Edition for all three pre-primers
- The ABC Study Book for all three pre-primers
- The ABC Teacher's Edition for Study Book
- Reading-Study Achievement Test (pre-primer level)
- Manual for Teachers (for Reading-Study Achievement Test)
- The ABC Up the Street and Down (primer)
- The ABC Teacher's Edition (primer)
- The ABC Study Book (primer)
- The ABC Teacher's Edition for Study Book (primer)
- Reading-Study Achievement Test (primer)
- Manual for Teachers (for Reading-Study Achievement Test - primer)
- Study Helps (pad, for primer)
- The ABC Word Cards for three pre-primers and primer
- The ABC Around Green Hills (first reader)
- The ABC Teacher's Edition (first reader)
- The ABC Study Book (first reader)
- The ABC Teacher's Edition, Study Book (first reader)
- Reading-Study Achievement Test (first reader)
- Manual for Teachers (first reader test)
- Study Helps (pad, for first reader)

For Pupils, one copy each:

- The ABC Fun for All (language readiness)
- The ABC Ready! Go! (reading readiness)
- Readiness Achievement Test
- The ABC On Our Way (first pre-primer)
- The ABC Time to Play (second pre-primer)
- The ABC All in a Day (third pre-primer)
- The ABC Study Book for all three pre-primers
- Reading-Study Achievement Test (pre-primer level)
- The ABC Up the Street and Down (primer)
- The ABC Study Book (primer)
- Reading-Study Achievement Test (primer)
- Study Helps (pad, for primer)

BASAL READER GROUP COMMERCIAL MATERIALS

Later, for those pupils who reach the first reader level:

The ABC Around Green Hills (first reader)
The ABC Study Book (first reader)
Reading-Study Achievement Test (first reader)
Study Helps (pad, for first reader)

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READING RESEARCH PROJECT 2734 "TESL" GROUP

COMMERCIAL MATERIALS

For Teachers, one copy each:

From American Book Company, We Learn English Series (Spanish Edition) by Faye L. Bumpass:

Book 1, We Learn English with Pepe and Bing
Book 2, We Learn English with Anita and Tabby
Book 3, We Learn English with Pepe and Anita
Book 4, We Learn English with the Soto Family
Book 5, We Learn English with Pepe and Anita on the Ranch
Book 6, We Learn English with Pepe and Anita at School
Teacher's Guide
Bumpass, Faye L. Teaching Young Students English as a Foreign Language (New York: American Book Company, 1963)

From American School Supply, 2301 Blake Street, Denver, Colorado:

"Instructo" No. 8 24" x 36" black flannel board
"Instructo" No. 68 8½" x 10" Velour Paper (Adhesive Back) 10 pkg. of 5 sheets each
"Instructo" No. 30 set of 160 3" capital letters (yellow or red)
"Instructo" No. 41 set of 160 3" lower case letters (yellow or red)
"Instructo" No. 50 set of 40 3" numerals (yellow or red)
"Instructo" No. 154 flocked set for story of Three Bears
"Instructo" No. 162 flocked set for story of Three Billy Goats Gruff
"Instructo" No. 88 flocked set of farm animals
"Instructo" No. 90 flocked set of zoo animals
"Instructo" No. 92 flocked set of animal pets
"Instructo" No. 152 flocked set for story of The Three Pigs
"Instructo" No. 156 flocked set for story of Little Red Riding Hood
9" x 12" extra heavy (200 lb) manila tag board, one ream

From Centennial School Supply 2988-3014 Huron Street, Denver, Colorado:

"Judy" 4¼ x 20" Strip Stick Boards, one dozen (black)

For Pupils, one copy each:

From American Book Company, We Learn English Series (Spanish Edition) by Faye L. Bumpass:

Book 1, We Learn English with Pepe and Bing
Book 2, We Learn English with Anita and Tabby
Book 3, We Learn English with Pepe and Anita
Book 4, We Learn English with the Soto Family

COLORADO STATE DEPARTMENT OF EDUCATION
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READING RESEARCH PROJECT 2734 LANGUAGE-EXPERIENCE GROUP

COMMERCIAL MATERIALS

Materials to be furnished for each classroom:

From American School Supply, 2301 Blake Street, Denver, Colorado:

#6630 "Nifty" 24" x 28½" ruled newsprint, 1 ream
#NP24 18" x 24" unruled newsprint, 4 reams
#9730 "Nifty" economy finger paint paper, 16" x 24", 5 pkg. of 100 each
#101 "Totem" white poster paper, 12" x 18", 10 pkg. of 100 each
#101 "Totem" white poster paper, 9" x 12", 10 pkg. of 100 each
#9650 "Nifty" sentence strip roll, 3" x 200', 2 rolls
#888 Large size Carter's "Marks-a-lot", 2 each blue, black, red
#1600 "Artista" powder paint, 1 each red, orange, yellow, green, blue, violet, turquoise, white, brown, black
#1601 "Artista" extending white powder paint, 3 packages
#241B 4½" blunt scissors, 1 dozen
#2212 Amaco pastel colored chalk, 12 per box, 1 dozen boxes
#100 Plasti-tak, 5 packages
#350 unruled 3" x 5" index cards, 2000
#6110 Size 5, 1 1/16 in. hair easel brushes, 2 dozen

From Centennial School Supply, 2988-3014 Huron Street, Denver, Colorado:

12" x 18" white drawing paper, 40 lb. stock, 2 reams
#859 12" x 18" red construction paper, 1 pkg. of 100
#809 12" x 18" blue construction paper, 1 pkg. of 100
#805 12" x 18" yellow construction paper, 1 pkg. of 100
#807 12" x 18" green construction paper, 1 pkg. of 100
Standard asst. pkg. 12" x 18" construction paper, 2 pkg. of 100 each
#71 11" x 8½" 1" ruled manuscript paper, 5 reams
#4 Crayonex crayons, 16 per box, 1 dozen boxes
#4 round head 1" paper fasteners, 1000
One gallon "School Gluey" paste
#961 Double panel kindergarten easel, one
#967 8 oz. glass jars with lids, 1 dozen
#968 easel trays, two
#969 easel clips, 4 pr.

From Appleton-Century-Crofts, New York:

Lee, Dorris M. and R. V. Allen, _Learning to Read Through Experience_, 1963.

From Ginn and Company, Boston:

Allen, R. V. and Gladys C. Halvorsen, _The Language-Experience Approach to Reading Instruction_, Ginn Contributions to Reading, No. 27.

LANGUAGE-EXPERIENCE GROUP COMMERCIAL MATERIALS

From the State Department of Education:

(Reproduced by permission of Superintendent of Schools, Department of Education, San Diego County, San Diego, California):

Allen, R. V. Language Experiences in the Kindergarten.

Allen, R. V. Beginning Writing Experiences, Level One, Number One.

Allen, R. V. A Teacher's Guide to At Home and School, Level One, Number Two.

For distribution to participating districts for use in the expenses of field trips and rental of audio-visual materials: up to $40.00.

APPENDIX D

SKILL BOOK

Appendix D contains the "Skill Book" outline and section write-ups as provided for the teachers in the project.

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COLORADO STATE DEPARTMENT OF EDUCATION

Office of Instructional Services

SKILL BOOK

for

READING RESEARCH PROJECT 2734

Outline

I. Phonological Skills of Transition from Spanish

    A. Correcting errors in sounds of English words

        1. Consonants

            a. Substituting "f" for "v" ____ ____ ____
            b. Substituting "s" for "z" ____ ____ ____
            c. Substituting "t" for "d" ____ ____ ____
            d. Substituting "k" for "g" ____ ____ ____
            e. Interchanging "b" and "v" ____ ____ ____
            f. Confusing "ch" and "sh" ____ ____ ____
            g. Substituting "y" for "j" ____ ____ ____
            h. Substituting "d", "f", or "t" for "th" ____ ____ ____
            i. Substituting "z", "v", or "d" for "th" ____ ____ ____
            j. Omitting "h" in "wh" ____ ____ ____
            k. ______________________________ ____ ____ ____

        2. Vowels

            a. Adding "e" to initial "sp", "sc", or "st" ____ ____ ____
            b. Substituting long "e" for short "i" ____ ____ ____
            c. Substituting long "u" or "oo" for short "u" ____ ____ ____

d. Substituting short "u" for "al", "aw", "au", "ou" ____ ____ ____

e. ______________________________ ____ ____ ____

B. Learning the sound patterns of English sentences

1. Stresses (variations in loudness) ____ ____ ____

2. Rhythm (variations in speed) ____ ____ ____

3. Pitch (variations in tone frequency) ____ ____ ____

4. Juncture (variations in transition patterns) ____ ____ ____

5. ______________________________ ____ ____ ____

II. Grammatical Skills of Transition from Spanish

A. Learning basic English sentence patterns

1. Noun - Be - Noun ____ ____ ____

2. Noun - Be - Modifier ____ ____ ____

3. Noun - Verb - Modifier ____ ____ ____

4. Noun - Verb - Noun ____ ____ ____

5. Noun - Verb - Noun - Noun ____ ____ ____

6. ______________________________ ____ ____ ____

7. ______________________________ ____ ____ ____

8. ______________________________ ____ ____ ____

B. Learning correct language patterns

1. Possessive forms of nouns ____ ____ ____

2. Verbs-tenses and number ____ ____ ____

3. Avoiding double negatives ____ ____ ____

4. Comparative forms of adjectives and adverbs ____ ____ ____

5. Word order of adjectives and nouns ____ ____ ____

6. Word order in questions ____ ____ ____

7. Use of pronouns ____ ____ ____

8. Idiomatic expressions ____ ____ ____
9. Use of contractions ____ ____ ____
10. Use of periods and capital letters ____ ____ ____
11. Use of plural forms ____ ____ ____
12. ______________________________ ____ ____ ____
13. ______________________________ ____ ____ ____
14. ______________________________ ____ ____ ____

III. Readiness Skills

A. Physical ____ ____ ____

B. Experience background ____ ____ ____

C. Interests ____ ____ ____

1. Interest in picture books ____ ____ ____
2. Interest in oral stories ____ ____ ____
3. Interest in words ____ ____ ____
4. Sense of humor ____ ____ ____
5. Interest in poetry ____ ____ ____
6. Interest in dramatizations ____ ____ ____
7. Interest in birthdays and holidays ____ ____ ____
8. Curiosity about new things ____ ____ ____
9. Interest in learning to read ____ ____ ____
10. __________________________ ____ ____ ____
11. __________________________ ____ ____ ____
12. __________________________ ____ ____ ____

D. Auditory discrimination

1. Discrimination of sounds ____ ____ ____
2. Discrimination of beginning sounds ____ ____ ____
3. Discrimination of ending sounds ____ ____ ____
4. Discrimination of rhyming sounds ____ ____ ____

E. Visual discrimination

1. Discrimination of shapes ______ ______ ______

2. Discrimination of letters ______ ______ ______

3. Discrimination of almost like words ______ ______ ______

4. Discrimination of phrases ______ ______ ______

5. Discrimination of sentences ______ ______ ______

6. ____________________________ ______ ______ ______

F. Left-to-right progression

1. In words ______ ______ ______

2. In sentences ______ ______ ______

G. Attention span ______ ______ ______

H. Oral vocabulary ______ ______ ______

I. Oral comprehension ______ ______ ______

1. Following oral directions ______ ______ ______

2. Understanding sequence of events ______ ______ ______

3. Visualizing settings, characters ______ ______ ______

4. Classifying things ______ ______ ______

5. Distinguishing fact from fantasy ______ ______ ______

6. Finding main idea or moral ______ ______ ______

7. Predicting outcomes ______ ______ ______

8. ____________________________ ______ ______ ______

9. ____________________________ ______ ______ ______

10. ____________________________ ______ ______ ______

J. Telling oral stories

1. Organizing in sequence ______ ______ ______

2. Being consistent, avoiding tangents ______ ______ ______

3. Ease in speaking to group ______ ______ ______

4. ____________________________ ______ ______ ______

5. ____________________ ____ ____ ____

6. ____________________ ____ ____ ____

7. ____________________ ____ ____ ____

IV. Word Recognition and Vocabulary Skills

A. Context

1. Using picture context clues ____ ____ ____

2. Using verbal context clues ____ ____ ____

B. Configuration

1. Memory of word forms ____ ____ ____

2. Developing sight vocabulary ____ ____ ____

C. Phonics

1. Naming capital and small letters ____ ____ ____

2. Matching capital and small letters ____ ____ ____

3. Hearing and seeing some single consonants in initial position: b,c, (hard only), d,f,g (hard only) h,j,l,m,n,p,r,s,t, and w ____ ____ ____

4. Hearing and seeing speech consonants (ch,sh,th,wh) in initial position ____ ____ ____

5. Hearing and seeing some consonant blends in initial position: sk, sm,sn,sp,st,tw,bl,br,gl,fl,pl,cl, fr, and tr ____ ____ ____

6. Hearing and seeing some common ending phonograms: ay,an,all,at, ack,ad,est,eep,all,en,er,et,eek, in,it,ight,ill,ing,ick,ock,op,ug ____ ____ ____

7. Hearing and seeing common rhyming phonograms ____ ____ ____

8. Hearing and identifying some short vowel sounds ____ ____ ____

9. Hearing and identifying some long vowel sounds ____ ____ ____

10. Recognizing number of syllables in a word ____ ____ ____

11. Putting phonograms together to make simple words ____ ____ ____

12. ______________________________ ____ ____ ____

D. Structural analysis

1. Hearing and seeing some inflectional endings: s,es,ed (3 sounds), ing ____ ____ ____

2. Hearing and recognizing common compound words (cowboy, anyhow) ____ ____ ____

3. Understanding common contractions (it's, wasn't, etc.) ____ ____ ____

E. Dictionary

1. Knowing letter names (capital and lower case) ____ ____ ____

2. Knowing alphabetical order ____ ____ ____

3. Using picture dictionary ____ ____ ____

4. Using word lists ____ ____ ____

5. Selecting the right meaning of a word ____ ____ ____

6. ______________________________ ____ ____ ____

V. Comprehension and Interpretation Skills

A. Following written directions ____ ____ ____

B. Following sequence of written story ____ ____ ____

C. Visualizing characters, events ____ ____ ____

D. Classifying things ____ ____ ____

E. Distinguishing fact from fantasy ____ ____ ____

F. Finding main idea or moral ____ ____ ____

G. Predicting outcomes ____ ____ ____

H. Using parts of a story for specific purposes ____ ____ ____

I. Using punctuation as an aid to meaning ____ ____ ____

J. Asking relevant questions ____ ____ ____

K. Drawing conclusions from evidence ____ ____ ____

L. Relating story to one's own experience ____ ____ ____

VI. Cultural Skills

A. Concerning time

1. Telling time ____ ____ ____

2. Being on time ____ ____ ____

3. Planning for tomorrow ____ ____ ____

4. Planning for next week or next month ____ ____ ____

5. Accepting change ____ ____ ____

6. ________________________ ____ ____ ____

7. ________________________ ____ ____ ____

8. ________________________ ____ ____ ____

B. Concerning space

1. Knowing names of places in school ____ ____ ____

2. Knowing names of streets in town ____ ____ ____

3. Knowing home address ____ ____ ____

4. Knowing school address ____ ____ ____

5. ______________________ ____ ____ ____

6. ______________________ ____ ____ ____

7. ______________________ ____ ____ ____

C. Concerning people

1. Knowing how family members work and play together ____ ____ ____

2. Learning how to get along with others in school ____ ____ ____

3. Knowing what school workers do ____ ____ ____

4. Knowing what community workers do ____ ____ ____

5. Knowing rules for popular games ____ ____ ____

6. Knowing why he is in school ____ ____ ____

7. ______________________________ ____ ____ ____

8. ______________________________ ____ ____ ____

D. Concerning things

1. Being familiar with certain measuring devices ____ ____ ____

2. Knowing names of common tools ____ ____ ____

3. Knowing names of colors, numbers, foods, etc. ____ ____ ____

4. ______________________________ ____ ____ ____

5. ______________________________ ____ ____ ____

6. ______________________________ ____ ____ ____

For: Basal Reader and Language-Experience Teachers
Source: Original
Author: Roy McCanne
Title: Learning the Sound Patterns of English Sentences

Our purpose is to help the children habituate the stress, rhythm, pitch, and juncture patterns of English sentences. As you read this explanation, you are aware that certain words ("key words") are more important than others. How do you know? There are no written clues to tell you.

The answer is complex. You can pick out key words partly because you know the subject of the paragraph, you know what you want to find out, and you have developed certain speed reading techniques. But the answer is also partly found in your oral English background of experience. You have learned to stress key words in order to add extra meaning or modify the meaning of your oral expression. By the same token, you find it very hard to listen to a speech given in a monotone. Too many meaning clues are simply not there, so you have to think about the meaning.

Children with a rich oral English background usually have little difficulty unconsciously supplying the stress patterns needed to give meaning while they read. But children with a poor oral English background or none at all will only learn this skill if they are taught it in school. We must teach it, or their silent reading will be just as difficult as listening to monotone speech.

At the first grade level the objective is not accomplished by having the pupils give you oral answers to questions, tell original oral stories as in "Show and Tell," or read orally. These activities are necessary and desirable, but they do not help the child learn sentence intonation patterns. The only way we know to teach good habits of stress, rhythm, pitch, and juncture is to have sentence pattern practice that is correctly modelled by you, the teacher. That means the children repeat a sentence immediately after you and exactly like you.

Let's give an example. We will CAPITALIZE for primary stress and alter the spacing to indicate rhythm:

Teacher: IsthisaSUNNYday oraCLOUDYday, Mary?
Mary: This is a sunny day.
Teacher: Yes, thisisaSUNnyday. Let'sallsaythatforpractice.
LISTEN: ThisisaSUNnyday. NowYOUsayit.
Group: This is a sunny day.
Teacher: NO. ThisisaSUNnyday.
Group: This is a SUNNY day.
Teacher: Not quite. ThisisaSUNnyday.
Group: ThisisaSUNnyday.
Teacher: GOOD. SayitAGAIN. ThisisaSUNnyday.
Group: ThisisaSUNnyday.
(Teacher then calls on a few individuals who need extra practice.)

> If she feels it is worthwhile, she may vary the sentence for more practice, such as: "ThisisNOT aCLOUDYday."

It is recommended that you seize upon two or three good sentences each day and ask the class to practice them after listening carefully to you. Intersperse this practice with other activities. The sentences should get progressively more complex during the year. They may be more complex than those found in typical first grade reading materials. They can also serve to introduce grammatical constructions such as verb tense changes, etc. (see SKILL BOOK Section II), as they should be introduced orally before they come up in reading. Example:

> Johnnydidn'tFEELWELLyesterday buttodayhefeelsFINE.

It might be well to contrast this with another pattern to show the subtle shift in emphasis or meaning:

> Johnnydidn'tfeelwellYESTERDAY but TODAYhefeelsfine.

or:

> JOHNNYdidn'tfeelwellYESTERDAY and LINDAdoesn'tfeelwellTODAY.

Such practice may be done on sentences taken from reading materials. An excellent device for obtaining practice is to have the group put on a play in which the characters have good speaking parts. Practice on poems and songs is also valuable, but the stress patterns may not be typical. Therefore, most of the practice should be on prose material.

For: TESL Teachers
Source: Original
Author: Clara M. Savage, 1628 E. 8th St., Pueblo
Title: Motivation Ideas for TESL Approach

In answer to your request to write a page on what I do to motivate my children I thought I would just tell you my procedure. I do not know that I do anything that everybody else doesn't do, but here it is:

While Group 1 is reading, I assign my Spanish children something to write. This can be flash cards or work from a chart. Lately, they have loved writing a page from the first Bumpass Book.

When it is time for them to read, we sit around a table. Every child must have a book mark to put under the line we are reading. I insist on this because the words seen and heard enough are bound to stay in their minds eventually.

We read together first, then separately. When time allows, we review several pages. Sometimes we go back to the first, and even back to the beginning of the first book. Our best reader is Donna Sandoval, and we all try to be as good a reader as Donna. She will know a word that no one else can remember. "This" is one of those words. They are very anxious to read alone. Some do not know the words at all but tell the whole thing by the lovely pictures.

In the afternoon we drill on flash cards. This helps them to recognize the word out of context. The prize for knowing the most cards is a star or pretty sticker on their clothing.

The songs add to the interest of the children. One Mother told me her little boy sings all the time. Singing, I'm sure, is a pleasant attitude toward learning. The songs have the new words in them, and they are repeated so many times, like Run, run, run, run--Run my pony run--etc.

On Friday afternoon these children sit with the other children in the other series and take their turn reading. If they do not know the word, the other child tells them. They share their songs with this group; every one loves doing this.

I have started calling on these children. They are so happy I am going to their house. They ride home in my car and show me the way. It is quite revealing what one sees on these visits. I will make a report of these calls at one time.

The chart I make I give to one of the children; they are all very anxious to take these home.

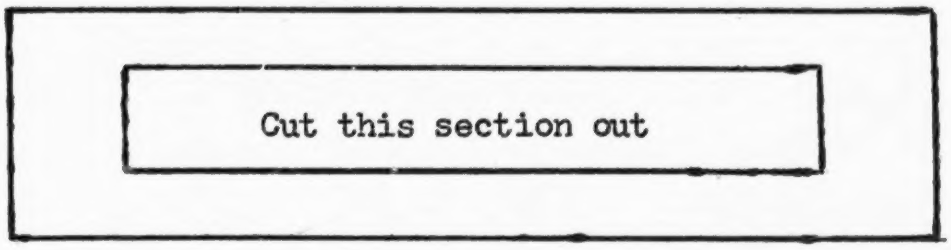
I think the attractiveness of the Bumpass Books lend to the enthusiasm of the children.

RESEARCH PROJECT 2734 - SKILL BOOK Section III.F.2. for TESL, Appendix #1

For: TESL Teachers
Source: Original
Author: Ruth Clair, Seventh Street School, Walsenburg, Colorado
Title: Window Marker

Window Marker

If a child is experiencing difficulty in L. to R. eye movements despite use of a marker, make a window marker for him to use for a few days. For example:



The child uses it like a regular marker, but it lets the line of print show through the slot.

For: TESL Teachers
Source: Original
Author: Roy McCanne
Title: Word Recognition and Vocabulary Skills

Our purpose is to teach the first grade level word recognition and vocabulary skills listed in the Skill Book outline for Section IV. The specific skills are not re-listed here. It is suggested that teachers review the outline and devise some plan to use it as a checklist from time to time, in order to identify skills that remain to be taught. Our concern here is with a method of teaching the skills.

In the TESL (Teaching English as a Second Language) method the teaching plans call for the development of flash cards, cards which may be velour-backed for use on the flannelboard. The words come from the lessons in the We Learn English books by Bumpass (Number 3 in the References) plus additional lessons such as the "Three Bears" story described in Teaching Young Students English as a Foreign Language by Bumpass (Number 2). All examples used here are from the We Learn English Books 1 to 4.

The use of flash cards is a flexible device that can serve many purposes. Some of the ways to use this device are described here, but there are additional uses which could serve other sections of the Skill Book. For example, words with a "v" in medial position (five, eleven, have, live, etc.) might be collected to give practice in the correct production and discrimination of the "v" sound (Skill Book Section I.A. 1.a.). Collections might be made of "People" words, "Place" words, and "Thing" words to identify the subjects of sentences (Skill Book Section II.A.). Collections might be made of "Toy" words to learn how to classify things (Skill Book Section V.D.). No claim is made that all these things should be done at once or should be done at all. The aim is to show the flexibility of this device.

The use of word lists in various patterns is the device used most for building certain skill generalizations in the commercial workbooks that accompany basal readers. In using such workbooks the teacher must go to considerable trouble to make sure that the children understand the words used, and are able to apply the generalizations learned. In contrast, the method of teaching described here will have considerable advantage in these respects because:

(1) The words used in teaching patterns are chosen because the children have first used them orally and in written sentences in class work.

(2) The patterned word lists are prepared by the children or right in front of the children, rather than by a remote workbook author. In consequence, the children will realize the purpose of putting certain words together in a pattern. This points up the necessity of making new lists (and seatwork to go with them) rather than using material prepared for other classes.

For our purposes, words may be arranged into patterns in numerous ways, including:

(1) Words in a pattern may be listed on a "Work Chart" to be hung around the room, with additional words added from time to time. Children who note that their new words fit an already established pattern should be given recognition.

(2) Children may keep their own word lists in patterns, one pattern to a sheet, and add words from time to time.

(3) Flash cards may be arranged to come up in sequence flashing so that a pattern is obvious.

(4) Velour-backed flash cards may be arranged on a flannelboard in patterns.

(5) Seatwork exercises may be made from word patterns (matching, fill-in, etc.) and written on the chalkboard to be copied or written on duplicator masters and run off.

The techniques described here are designed to be compatible with and used in supplement to the techniques described in the TESL teacher's guides. Additional techniques are described at many points in the Teacher's Guide for We Learn English by Bumpass (1).

IV.A. Context

A reader uses context clues for three main purposes:

(1) to help identify a word in print as one that he knows orally (in combination with other word recognition techniques)

(2) to identify the particular meaning of a word that has several meanings

(3) to help narrow down the possible meanings of a new word that he does not know orally.

All three uses of context skills are very difficult for Spanish-speaking children because of their lack of experience with English. In addition, a word such as "look" that has many meanings in English may have several different Spanish equivalents, depending upon the meaning that was intended (to look - mirar, to look for - buscar, to look like - parecer). This complicates an already confusing situation, and leads us to avoid teaching children to translate back and forth between Spanish and English in favor of learning English from scratch.

In the first grade we are not primarily concerned with the development of the third purpose above, although we should capitalize on opportunities to promote it. This third purpose is very difficult for first grade children because of their lack of broad experience.

For the first two uses of context skills, the following activities are recommended:

(1) Make liberal use of pictures to practice picture reading in

class discussion. Pictures in the Bumpass books, basal reader readiness books, library books, and pictures cut out of magazines or newspapers are all useful. The children should be lead to tell what they can see in the picture, what they can tell from what they see, how they know it, and also what they cannot tell from what they see in the picture.

(2) Prepare a sentence with a key word left out, orally at first and then with written words on the chalkboard or velour-backed flash cards on the flannelboard. What words would "fit" in the blank? Later, add an initial consonant to the blank to narrow down the choice of words that would make sense. After the class has had oral practice and discussion of this technique, seatwork using sentences with blanks and choices of words for the blanks may be used, always with words the children already know.

(3) Rebus writing, with pictures substituted for some words, may be a help on bulletin boards and charts. It's fun!

(4) When the children stumble over words in oral reading, always insist that the word they guess must "make sense." This is probably a more important habit in the long run than the habit of sounding out unknown words, but both habits should be developed.

(5) The particular meaning of many words can be identified by the use of the word in the sentence. For example: "name" may be a verb or a noun. First graders are not ready for much formal grammar, but they can take note when "name" comes up on both a list of "thing" words and a list of "action" or "Things to Do" words.

(6) The development of a list of words for which the class has come across more than one meaning might be helpful. The list could be developed in class on a "Work Chart" and additional words added from time to time. Children who identify new multiple-meaning words for the chart should be given special recognition, such as having their names written beside the words. As words are put on the chart, several children might be asked to make up oral sentences using the word in all the meanings the children know. Then the teacher might write two of the sentences with contrasting meanings, and discuss with the class how they know which meaning of the word was intended. An acceptable answer is: "It makes sense that way!"

(7) There are many other ways to teach context skills. Use all you know. Specific suggestions may be found on pp. 51-52 of Reading Aids Through the Grades by Russell and Karp (9), and in Vocabulary Development in the Classroom by Deighton (Reference 4, probably more helpful for grades 4 up).

IV.B. Configuration

In the TESL method the stock of sight words built up on cards is cumulative and ever-growing. The introduction of words in the TESL method is controlled by several principles. However, there is no apparent contradiction in the TESL method between the principles of vocabulary control and the addition of extra words. Consequently, the recommendation is made that TESL teachers find ways to add words by the addition of short "language-experience" lessons at the end of the prescribed lessons. Allow the children to tell their own experiences with the activities and vocabulary items in the Bumpass books. Help the children learn orally the new words they may need to tell their own stories. Have blank velour-backed flash cards and a marking pen handy, and prepare word cards for the new words. Then arrange the word cards in correct order on the flannelboard and use the sentences for oral sentence pattern practice. In like manner, stories from basal reader series or library books may be read to the children (by the teacher or by the child), provided they are related in some way and use several words in common with the stories in the Bumpass books. Such extra stories may be summarized, new words written on flash cards, and the new sentences used for oral practice. It is important that the stories be related to those in the Bumpass books and many words be the same, so the children will realize that the words they learn in their daily lessons are the same words used in all reading.

By the above process, plus the planned daily lessons, the stock of sight words should grow rapidly. It is important to remember, however, that a child's ability to remember words he has learned is partly a matter of frequency of use and partly a matter of emotional commitment. Whatever the teacher can do to make the learning of new words highly motivated, exciting, and vital to the child in his own life will make a big difference. A warm, friendly atmosphere during the reading lesson is also an important factor.

IV.C. Phonics

In the TESL method it will be increasingly possible, as the stock of words builds up, to arrange word cards or word lists so that the words appear in patterns. To arrange words in such patterns and point out the patterns to the children is the key to most methods of phonics teaching. Controversial aspects of phonics teaching enter the picture when we decide which patterns to teach first (initial consonant, short vowels, long vowels, linguistic spelling patterns, etc.), to what extent the patterns should be described (as "phonics rules") and the descriptions memorized by the children, and when such descriptions should be taught. For the purposes of Research Project 2734, the following preferences are adopted:

(1) Initial consonant sound-letter correspondence patterns should be taught first, followed by short vowel sounds and then long vowel sounds. However, this sequence is not sacred. Where it conflicts with that taught by supplementary phonics materials being used (such as Tag) it should be modified to avoid confusion. A discussion of the rationale involved in this decision may be found on pp. 15-20 of Phonics in Proper Perspective by Heilman (7), and on pp. 35-39 of On Their Own in Reading by Gray (6).

(2) Words should be arranged to show a particular pattern (boy, ball, big, bed) and the children should be lead to realize that the words all have a particular sound pattern in common and a particular spelling pattern in common. The correspondence pattern should be developed as a generalization, but not carried further as a rule to be memorized (whenever you hear "buh" you write it as "b"). To read by remembering such rules is impossibly slow. The rules that come to be needed later for spelling may be learned when needed.

(3) The Skill Book outline for Section IV.C. lists the phonics generalizations considered appropriate for the first grade in Research Project 2734. Short and long vowel sounds may be taken up as words become available to teach them, except that it will be desirable to introduce some extension of the patterns in order to help children apply their generalizations to new words.

The type of patterns used may include:

(1) Similar patterns, where all the words exhibit a common feature. Examples include the initial consonant "b" pattern (boy, ball, bed, big), rhyming patterns (he, she, three, tree), etc.

(2) Contrastive patterns, where all words exhibit a common feature and a contrastive feature. Examples include short vowel contrasts (has, his; man, men), final "e" contrasts (her, here; not, note; fin, fine), etc. According to Fries in Linguistics and Reading (5), the use of contrastive patterns should yield the most productive results. However, it will be difficult at first to find enough known words to set up such patterns. For our purposes we disagree with Fries that such patterns should be studied entirely apart from the contextual use of the words in sentence patterns.

Even so, in well controlled patterns such as contrastive ones, it is possible to lead the children to extend the pattern to words they have not yet read, and this surely is good if the words thus produced are understood by the children. For example, suppose you have set up the pattern "can, man." "What would we have if we started the word with a 't'? A 'th'? (not in book)." Discuss each word to see that all know what it means in a sentence.

In addition to the use of word patterns, there are many other ways to teach phonics, such as teaching children to sound out words, the use of many types of devices (word wheels, games), the use of supplementary phonics teaching materials, etc. A list of more than 50 sets of materials for teaching phonics is available; see reference (8). Use whatever works for you, provided it is compatible with the philosophy of the Bumpass materials.

IV.D. Structural Analysis

Not many of the full range of structural word analysis skills (understanding inflectional endings, compound words, suffixes, prefixes, contractions, root words, variant spellings) are considered appropriate for first grade except as very simple generalizations. The skills listed in the Skill Book outline include hearing and seeing some inflectional endings and hearing and recognizing common compound words. The word card device explained above provides an easy way to help children develop the appropriate generalizations, simply by grouping together words that have the desired features as new words come up in regular lessons. Examples of words illustrating the desired features follow:

Inflectional endings: (Use contrastive patterns as well as similar patterns pointing out the contrast or similarity. Some of these words are extensions of the forms in the books.)

	Contrastive	Similar
s ending	girl-girls run-runs	girls, runs, boys, brothers, doors eats, ears, plays, drinks, etc.
es ending	class-classes house-houses	classes, houses, roses, addresses, etc.
ed ending (ed sound)	greet-greeted count-counted	greeted, counted, etc.
ed ending (d sound)	live-lived love-loved	lived, loved, played, etc.
ed ending (t sound)	jump-jumped look-looked	jumped, looked, thanked, etc.
Compound words: (Words from books plus holidays, school, etc.)	after, noon - afternoon thanks, giving Thanksgiving	Afternoon, Thanksgiving, grandmother, playground
Contractions:	it is - it's I am - I'm	it's, I'm, who's, what's, they're, you're

IV.E. Dictionary

Dictionary skills are normally begun in a formal way in third or fourth grade. However, in first grade children need to learn the letter names and alphabetical order in preparation for later skill learning. The production and use of picture dictionaries is a very helpful activity. Such dictionaries are often produced for special topics. A class might make a "Weather Dictionary," "Winter Dictionary," "Color Dictionary," etc., containing pictures with word labels.

In preparing such dictionaries, the words should be put in alphabetical order as practice in learning the order. The word list at the back of each We Learn English book is an example of alphabetical order. Other items in the classroom may be kept in alphabetical order, such as names of the children, flash cards stored when not in use, etc. The teacher may take occasions to point out why we use alphabetical order for such purposes, and that we sometimes use other types of order, such as numerical order and serial order.

Teachers know many ways of teaching letter names and alphabetical order. Use any that work. Some good activities for teaching alphabetical order are listed on pp. 567-568 in Reading Instruction for Today's Children by Smith (10). The same book has a long list of commercially available picture dictionaries on pp. 327-328.

Teachers are encouraged to examine the references cited, either by professional library loan through the school district, inter-library loan through the State Library, or purchase. Purchase of these books by the district for its professional library is recommended.

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For: Language-Experience Teachers
Source: Original
Author: Roy McCanne
Title: Word Recognition and Vocabulary Skills

Our purpose is to teach the first grade level word recognition and vocabulary skills listed in the Skill Book outline for Section IV. The specific skills are not re-listed here. It is suggested that teachers review the outline and devise some plan to use it as a checklist from time to time, in order to identify skills that remain to be taught. Our concern here is with a method of teaching the skills.

In the LEA (Language-Experience Approach) the teaching plans call for the development of word cards or word lists. The word lists may be developed individually or by the group as "Work Charts" described on pp. 48 and 51-53 of Learning to Read Through Experience by Lee and Allen (number 5 in the References at the end of this section). The words come from experience stories told and written in class.

The use of word cards or word lists is a flexible device that can serve many purposes. Some of the ways to use this device are described here, but there are additional uses which could serve other sections of the Skill Book. For example, words with a "v" in medial position (five, ever, lived, leaves, etc.) might be collected to give practice in the correct production and discrimination of the "v" sound (Skill Book Section I.A. 1.a.). Collections might be made of "People" words, "Place" words, and "Thing" words to identify the subjects of sentences (Skill Book Section II.A.). Collections might be made of "Toy" words to learn how to classify things (Skill Book Section V.D.). No claim is made that all these things should be done at once or should be done at all. The aim is to show the flexibility of this device.

The use of word lists in various patterns is the device used most for building certain skill generalizations in the commercial workbooks that accompany basal readers. In using such workbooks the teacher must go to considerable trouble to make sure that the children understand the words used, and are able to apply the generalizations learned. In contrast, the method of teaching described here will have considerable advantage in these respects because:

(1) The words used in teaching patterns are chosen because the children have first used them orally and in written sentences in class work.

(2) The patterned word lists are prepared by the children or right in front of the children, rather than by a remote workbook author. In consequence, the children will realize the purpose of putting certain words together in a pattern. This points up the necessity of making new lists (and seatwork to go with them) each year, rather than using material prepared for other classes.

For our purposes, words may be arranged into patterns in numerous ways, including:

(1) Words in a pattern may be listed on a "Work Chart" to be put up in the room, with additional words added from time to time. Children who note that their new words fit an already established pattern should be given recognition.

(2) Children may keep their own word lists in patterns, one pattern to a sheet, and add words from time to time.

(3) Flash cards may be arranged to come up in sequence flashing so that a pattern is obvious.

(4) Flash cards may be arranged on a pocket chart in patterns.

(5) Seatwork exercises may be made from word patterns (matching, fill-in, etc.) and written on the chalkboard to be copied or written on duplicator masters and run off.

The techniques described here are designed to be compatible with and used in supplement to the techniques described in the LEA teacher's guides. Additional techniques are described at many points in Learning to Read Through Experience by Lee and Allen (5).

IV.A. Context

A reader uses context clues for three main purposes:

(1) to help identify a word in print as one that he knows orally (in combination with other word recognition techniques)

(2) to identify the particular meaning of a word that has several meanings

(3) to help narrow down the possible meanings of a new word that he does not know orally.

All three uses of context skills are very difficult for Spanish-speaking children because of their lack of experience with English. In addition, a word such as "look" that has many meanings in English may have several different Spanish equivalents, depending upon the meaning that was intended (to look - mirar, to look for - buscar, to look like - parecer). This complicates an already confusing situation, and leads us to avoid teaching children to translate back and forth between Spanish and English in favor of learning English from scratch.

In the first grade we are not primarily concerned with the development of the third purpose above, although we should capitalize on opportunities to promote it. This third purpose is very difficult for first grade children because of their lack of broad experience.

For the first two uses of context skills, the following activities are recommended:

(1) Make liberal use of pictures to practice picture reading in class discussion. Pictures in basal reader readiness books, library books, and pictures cut out of magazines or newspapers are all useful. The children should be lead to tell what they can see in the picture, what they can tell from what they see, how they know it, and also what they cannot tell from what they see in the picture.

(2) Prepare a sentence with a key word left out, orally at first and later with written words on the chalkboard or flash cards on a pocket chart. What words would "fit" in the blank? Later, add an initial consonant to the blank to narrow down the choice of words that would make sense. After the class has had oral practice and discussion of this technique, seatwork using sentences with blanks and choices of words for the blanks may be used, always with words the children already know.

(3) Rebus writing, with pictures substituted for some words, may be a help on bulletin boards and charts. It's fun!

(4) When the children stumble over words in oral reading, always insist that the word they guess must "make sense." This is probably a more important habit in the long run than the habit of sounding out unknown words, but both habits should be developed.

(5) The particular meaning of many words can be identified by the use of the word in the sentence. For example: "play" may be a verb or a noun. First graders are not ready for much formal grammar, but they can take note when "play" comes up on both a list of "thing" words and a list of "action" or "Things to Do" words.

(6) The development of a list of words for which the class has come across more than one meaning might be helpful. The list could be developed in class on a "Work Chart" and additional words added from time to time. Children who identify new multiple-meaning words for the chart should be given special recognition, such as having their names written beside the words. As words are put on the chart, several children might be asked to make up oral sentences using the word in all the meanings the children know. Then the teacher might write two of the sentences with contrasting meanings, and discuss with the class how they know which meaning of the word was intended. An acceptable answer is: "It makes sense that way!"

(7) There are many other ways to teach context skills. Use all you know. Specific suggestions may be found on pp. 51-52 of Reading Aids Through the Grades by Russell and Karp (7), and in Vocabulary Development in the Classroom by Deighton (Reference #1, probably more helpful for grades 4 up), as well as other sources.

IV.B. Configuration

Configuration is one means of helping to remember sight words. You may help to point out words of unusual length, words with odd shapes (off, pop, etc.), or to collect such words on a list of "Words with Funny Shapes." In the LEA the stock of sight words built up on cards or lists is cumulative and ever-growing. It is important to remember, however, that a child's ability to remember words he has learned is partly a matter of frequency of use and partly a matter of emotional commitment. Whatever the teacher can do to make the learning of new words highly motivated, exciting, and vital to the child in his own life will make a big difference. A warm, friendly atmosphere during the reading lesson is also an important factor.

IV.C. Phonics

It will be increasingly possible, as the stock of words builds up, to arrange the word cards or word lists so that the words appear in patterns. To arrange words in such patterns and point out the patterns to the children is the key to most methods of phonics teaching. Controversial aspects of phonics teaching enter the picture when we decide which patterns to teach first (initial consonant, short vowels, long vowels, linguistic spelling patterns, etc.), to what extent the patterns should be described (as "phonics rules") and the descriptions memorized by the children, and when such descriptions should be taught. For the purposes of Research Project 2734, the following preferences are adopted:

(1) Initial consonant sound-letter correspondence patterns should be taught first, followed by short vowel sounds and then long vowel sounds. However, this sequence is not sacred. Where it conflicts with that taught by supplementary phonics materials being used (such as Tag), it should be modified to avoid confusion. A discussion of the rationale involved in this decision may be found on pp. 15-20 of Phonics in Proper Perspective by Heilman (4), and on pp. 35-39 of On Their Own in Reading by Gray (3).

(2) Words should be arranged to show a particular pattern (boy, ball, box, big) and the children should be lead to realize that the words all have a particular sound pattern in common and a particular spelling pattern in common. The correspondence pattern should be developed as a generalization, but not carried further as a rule to be memorized (whenever you hear "buh" you write it as "b"). To read by remembering such rules is impossibly slow. The rules that come to be needed later for spelling may be learned when needed.

(3) The Skill Book outline for Section IV.C. lists the phonics generalizations considered appropriate for the first grade in Research Project 2734. Short and long vowel sounds may be taken up as words become available to teach them, except that it will be desirable to introduce some extension of the patterns in order to help children apply their generalizations to new words.

The type of patterns used may include:

(1) Similar patterns, where all the words exhibit a common feature. Examples include the initial consonant "b" pattern (boy, ball, box, big), rhyming patterns (wide, hide, side, ride), etc.

(2) Contrastive patterns, where all words exhibit a common feature and a contrastive feature. Examples include short vowel contrasts (pat, pit, pet, pot; bat, bit, bet, but), final "e" contrasts (at, ate; mad, made; hid, hide; car, care), etc. According to Fries in Linguistics and Reading (2), the use of contrastive patterns should yield the most productive results. However, it will be difficult at the first grade level to find enough known words to set up such patterns. For our purposes we disagree with Fries that such patterns should be studied entirely apart from the contextual use of the words in sentence patterns.

Even so, in well controlled patterns such as contrastive ones, it is possible to lead the children to extend the pattern to words they have not yet read, and this surely is good if the words thus produced are understood by the children. For example, suppose you have set up the pattern "fat, bat, cat, hat, rat." "What would we have if we started the word with an 's'?" Discuss the word to see that all know what it means in a sentence. The same may be done with final consonant substitution: "bug, bus, but. What if we end the word with an 'n'?"

In addition to the use of word patterns for teaching word recognition in reading and spelling in writing, there are many other ways to teach phonics. In the LEA the heavy emphasis on semi-independent and fully independent spelling, which should grow naturally as the child matures, will introduce a great deal of phonics teaching in a meaningful way. Other ways include teaching children by example to sound out new words as they come across them, the use of many types of devices (word wheels, games, etc.), and the use of supplementary phonics teaching materials. A list of more than 50 sets of materials for teaching phonics is available free; see reference (6). Use whatever works for you, provided it does not create conflicts or confusion when you carry out LEA lessons. Off hand, it appears that no commercial phonics materials would conflict with LEA lessons, even though some do appear to conflict with other commercial phonics materials.

IV.D. Structural Analysis

Not many of the full range of structural word analysis skills (understanding inflectional endings, compound words, suffixes, prefixes, contractions, root words, variant spellings) are considered appropriate for first grade except as very simple generalizations. The skills listed in the Skill Book outline include hearing and seeing some inflectional endings, hearing and recognizing common compound words, and understanding common contractions. The word list or word card device explained above provides an easy way to help children develop the appropriate generalizations, simply by grouping together words that have the desired features and adding to the list as new words come up in regular lessons. Examples of words illustrating the desired features follow:

Inflectional endings: (Use contrastive patterns as well as similar patterns)

	Contrastive	Similar
s ending	girl-girls run-runs	girls, runs, plays, books, digs, dogs, jumps, calls, sleeps, etc.
es ending	dish-dishes peach-peaches	dishes, peaches, dresses, glasses, boxes, foxes, washes, etc.
ed ending (ed sound)	end-ended count-counted	ended, counted, planted, wanted, shouted, skated, painted, etc.

	Contrastive	Similar
ed ending (d sound)	call-called climb-climbed	called, climbed, opened, showed, played, cried, happened, etc.
ed ending (t sound)	jump-jumped walk-walked	jumped, walked, looked, laughed, talked, wished, slipped, etc.
Compound words:	cow, boy - cowboy thanks, giving - Thanksgiving	cowboy, Thanksgiving, grandmother, playground, somewhere, fireman, bedroom, upon, policeman, etc.
Contractions:	it is - it's I am - I'm	it's, I'm, you're, we're, they're, he's, she's, hasn't, didn't, wasn't, etc.

IV.E. Dictionary

Dictionary skills are normally begun in a formal way in third or fourth grade. However, in first grade children need to learn the letter names and alphabetical order in preparation for later skill learning. The production and use of picture dictionaries is a very helpful activity. Such dictionaries are often produced for special topics. A class might make a "Weather Dictionary," "Winter Dictionary," "Color Dictionary," etc., containing pictures with word labels.

In preparing such dictionaries the words should be put in alphabetical order as practice in learning the order. Other items in the classroom may be kept in alphabetical order, such as names of the children, flash cards stored when not in use, etc. The teacher may take occasions to point out why we use alphabetical order for such purposes, and that we sometimes use other types of order, such as numerical order and serial order. Most lists of words on "Work Charts" will be in serial order, with the latest words added at the bottom.

Teachers know many ways of teaching letter names and alphabetical order. Use any that work. Some good activities for teaching alphabetical order are listed on pp. 567-568 in Reading Instruction for Today's Children by Smith (8). The same book has a long list of commercially available picture dictionaries on pp. 327-328.

Teachers are encouraged to examine the references cited, either by professional library loan through the school district, inter-library loan through the State Library, or purchase. Purchase of these books by the district for its professional library is recommended.

References Cited in Section IV.

1. Deighton, Lee C. Vocabulary Development in the Classroom. Bureau of Publications, Teachers College, Columbia University, 525 West 120th Street, New York 27, New York, 1959, 62pp., $1.25.

2. Fries, Charles C. Linguistics and Reading. Holt, Rinehart and Winston, Inc., 383 Madison Avenue, New York 17, New York, 1963, 265p., $5.00.

3. Gray, William S. On Their Own In Reading. Scott, Foresman and Company, 433 East Erie Street, Chicago, Illinois 60611, 1960, 248p., $3.50.

4. Heilman, Arthur W. Phonics in Proper Perspective. Charles E. Merrill Books, Inc., 1300 Alum Creek Drive, Columbus, Ohio 43216, 1964, 103p., $1.95.

5. Lee, Dorris M. and R. V. Allen. Learning to Read Through Experience. Appleton-Century-Crofts Division of Meredith Publishing Company, 34 West 33rd Street, New York 1, New York, 1963, 146p., $2.50.

6. McCanne, Roy. Partial List of Materials for Teaching Phonics. Colorado State Department of Education, State Office Building, Denver, Colorado 80203, 1964, 8p., Free.

7. Russell, David H. and Etta E. Karp. Reading Aids Through the Grades. Bureau of Publications, Teachers College, Columbia University, 525 West 120th Street, New York 27, New York, 1951, 120p., $1.25.

8. Smith, Nila Banton. Reading Instruction for Today's Children. Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1963, 594p., $7.50.

Acknowledgement for helpful criticism of the original draft of Section IV is made to Dr. Phylliss Adams, University of Denver; Dr. R. V. Allen, University of Arizona; Dr. Helen Bonnema, Colorado Women's College; and Mr. Robert Cheuvront, Colorado State Department of Education.

For:	TESL Teachers
Source:	Original
Author:	Helen L. Gonzales, Fort Garland, Colorado
Title:	Game for Strengthening Verbal Context Clues: "I Have a Secret"

Variations of this game could serve several purposes, such as oral sentence intonation practice, classifying things, etc., in addition to growth in understanding of verbal context clues.

An "It" and a "panel" of several children are chosen. "It" gets together with the teacher to decide upon an object or idea to be guessed. "It" then gives a hint to the panel. For example: (Stressed words are underlined)

It:	"It is a toy."
Panel:	"Is it a ball?" (Members of panel take turns asking.)
It:	"No, it is not a ball."
Panel:	"Is it a doll?"
It:	"No, it is not a doll."
Panel:	"Is it a top?"
It:	"Yes, it is a top."

The panel member who guessed correctly then becomes "It." Another example:

It:	"It is furniture."
Panel:	"Does it belong in the bedroom?"
It:	"Yes, it belongs in the bedroom."
Panel:	"Is it a bed?"
It:	"Yes, it is a bed."

RESEARCH PROJECT 2734 - SKILL BOOK Section IV.B. for TESL, Appendix #1

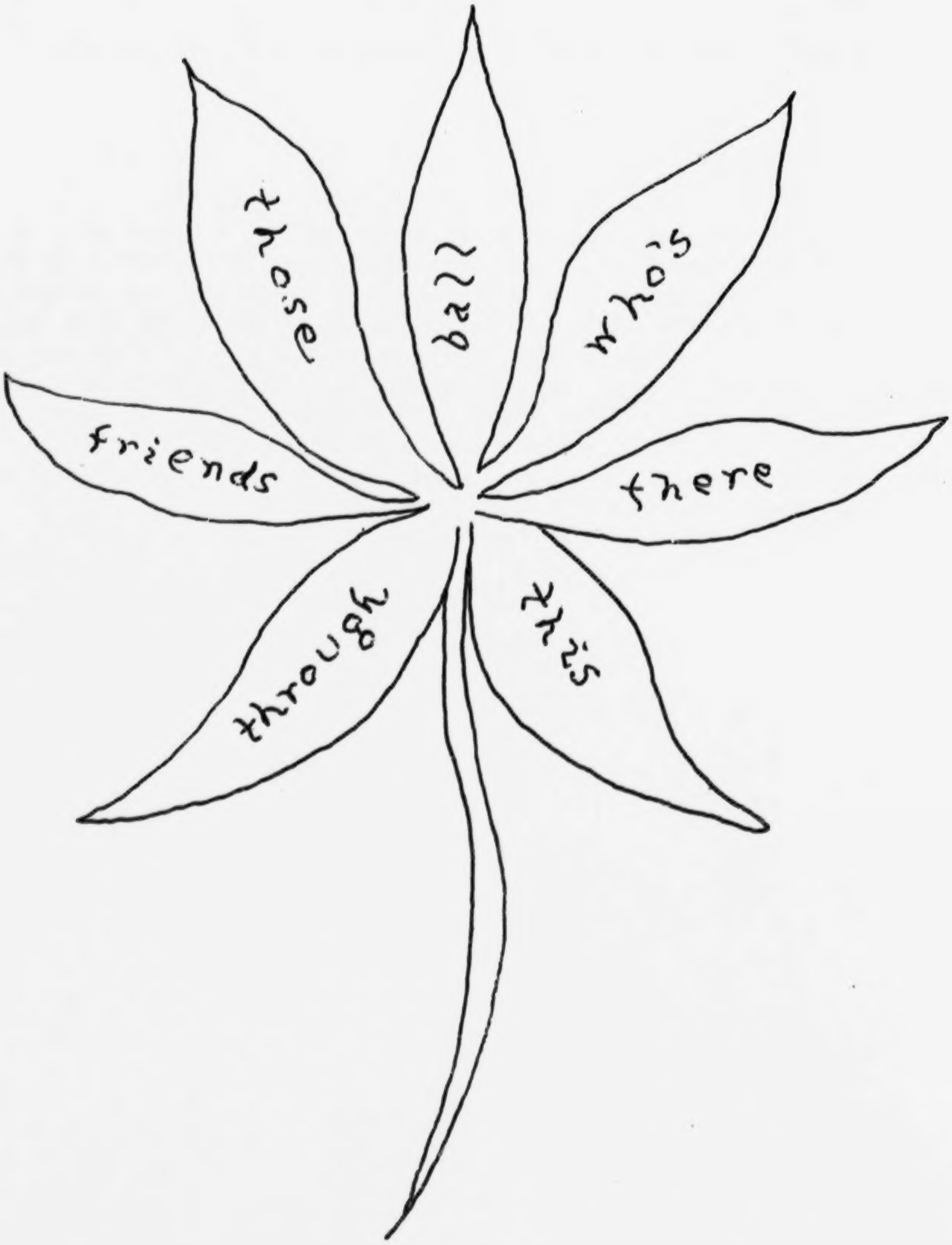
For: TESL Teachers
Source: Original
Author: Ruth Clair, Seventh Street School, Walsenburg, Colorado
Title: Slap Jack
Material: Word cards made by teacher

through	those	there	through

Procedure: The deck of cards is made up of words which cause difficulty, such as "to," "too," "two," etc. All the cards are different with the exception of four words which are alike on four cards and are called the slap cards. The cards are dealt to the players and are kept face down. Each player lays down a card in turn and pronounces the word on the card. When the card bearing the slap word is turned up, each player tries to be the first one to put his hand over the cards in the pool, and says, "SLAP THROUGH." The cards in the pool are then added to his pack. When a player's supply of cards becomes exhausted, he is automatically out of the game. The person who has all the cards is the winner.

For: TESL Teachers
Source: Original
Author: Ruth Clair, Seventh Street School, Walsenburg, Colorado
Title: Picking Petals

Draw a large poinsettia, sunflower, or any flower appropriate for the occasion. You may construct one of paper, similar to the one below. In class time, let the pupils pull the petals off by pronouncing the words written on them. For added drill, replace the petals while saying the words.



RESEARCH PROJECT 2734 - SKILL BOOK   Section V. for TESL, Appendix #1

For: TESL Teachers
Source: Original
Author: Ruth Clair, Seventh Street School, Walsenburg, Colorado
Title: Color Matching
Material: Tagboard cards printed by teacher

Teacher prints words on tagboard. Color words are on small cards in attached envelope.

Procedure: Match words with the color.

snow ____________
fire engine____________
banana ____________
sky ____________
night ____________
violets ____________
pumpkin ____________
trees ____________

green ____________
yellow____________
purple____________
black ____________
blue ____________
yellow____________
red ____________
white ____________

For: TESL Teachers
Source: Original
Author: Ruth Clair, Seventh Street School, Walsenburg, Colorado
Title: Following Directions

To the pupils: Here is a test to see how well you can follow directions. You are to do four things:

1. Read through the following list of words and pick out all the flowers and write "F" on each one you recognize.
2. Then read through the list again and pick out all the animals and write an "A" on each one you find.
3. Next, pick out all the vegetables and put a "V" on each one.
4. Last of all, draw a line under each word that is a fruit.

Pick out words for the list that the children are familiar with.

APPENDIX E

MEASURING INSTRUMENTS

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COLORADO STATE DEPARTMENT OF EDUCATION
Office of Instructional Services

RESEARCH PROJECT 2734 Tests for September, 1964

Order	Days	Sittings	Total Minutes	Test Source
1.	1	3	30	Harris-Goodenough, Draw-A-Man Harcourt, Brace & World
2.	4	4	120	Inter-American Series, H. T. Manuel, Prueba de Habilidad General, HC-I-CEs; Guidance Testing Associates, 6516 Shirley Avenue, Austin, Texas 78752
3.	1	2	30	Thurstone, Pattern Copying and Identical Forms: My Weekly Reader will reproduce
4.	2	3	60	(New) Metropolitan Readiness Harcourt, Brace and World
5.	2	2	60	Durrell-Murphy Word Elements Tests, "Identification of Phonemes", "Letter Names," and "Learning Rate" Subtests; Harcourt, Brace and World
6.	1	1	15	Pintner-Cunningham Primary Mental Test, Form B Harcourt, Brace and World
7.	2	2	60	Brengelman and Manning, Linguistic Capacity Index Fresno, State College Fresno, California
Totals	13	17	375	

COLORADO STATE DEPARTMENT OF EDUCATION
Office of Instructional Services

RESEARCH PROJECT 2734 SEPTEMBER TESTS

GENERAL INSTRUCTIONS

Schedule. The initial testing program for Research Project 2734 should begin September 14, 1964 and extend for 13 consecutive school days. However, should the schedule be interrupted by the absence of the regular teacher, excessive absence by pupils, or any other reason, a delay of a day at any point is permissible. It is better to delay a test than give it under poor conditions. The order of the tests shall not be changed.

The instructional period of 140 school days will begin the day after the completion of the last test, which is the Linguistic Capacity Index.

Classroom Conditions. Teachers should arrange to have the non-experimental group children taken from the room during the experimental group testing time. None of the tests will require that the experimental group be divided.

The regular classroom teacher participating in the Project should give all the tests without help. Children should be spread out in the room so that they do not get help from each other. A pleasant, relaxed atmosphere should prevail. Give all tests as early in the morning as possible.

Make-ups. Every effort should be made to give make-up tests to experimental group children who are absent. Make-up tests should be given within one week of the time they were given to the group. Each make-up test should be marked "Make-Up" at the top of the pupil's paper, with the date the test was taken by the group and the date the test was taken by the pupil who missed the group session. Except for unusual situations, tests given more than a week late will not be counted.

Any day that three or more pupils from the experimental group are absent, it would be better to delay the test than try to conduct make-ups.

Information Requested on Each Test. Even though some information will be duplicated many times, each test paper or booklet should be completed with all the requested information about the pupil. For legibility, the teacher should print the pupil's full name on each paper, even if the pupil has already printed it. These provisions are made because we are participating in research or standardizations on most of these tests. After we complete our own research, the booklets will be shipped to the publisher for further research.

What to Do with Completed Tests. As each test is taken by the group, all the test materials (Teacher's manual and answer booklets) should be placed in a vertical file folder. The folder should be marked with the name of the test, date taken, and teacher's name, and it should be closed on all sides with rubber bands. The folder should then be kept in a safe place until the Project Director picks it up on his first visit.

Scoring. Teachers should not attempt to score any of the tests. All of them will be scored by the Project Director and staff. No scores will be reported to the teachers except Metropolitan Readiness Test scores, and since this test is not yet standardized only raw scores will be reported for comparison with other children in the same class. Teachers should not ask for scores on the other tests, as none of them are considered valid enough for individual diagnosis with children from Spanish-speaking homes. For the purposes of the project, only total experimental group comparisons will be made.

SPECIAL INSTRUCTIONS

Rating Scales. Two rating scales, "Ability to Speak English" and "Ability to Understand Spoken English," are provided on one sheet. Teachers are asked to keep some notes on their observations of each child in the experimental group. At the end of the testing period, before the instructional period begins, teachers are asked to rate each child according to the five-point scales. It is best not to depend on one observation for these scales, but instead to rate the children several times during the testing period, revising as necessary until the final judgement is made.

Goodenough-Harris Drawing Test. The manual, pp. 239-242, should be followed as closely as possible, except that:

(1) The teacher should record the information on the front of the booklet, top half, rather than having the children try to do it.
(2) Information on ambiguous parts (p. 239, second paragraph) should be written on the pictures for the benefit of the scorers.
(3) Any emotional problems (withdrawing, crying, bullying, etc.) noted by the teacher should be noted briefly under "Examiner's Notes" on the front of the booklet.

The instructions at the top of each booklet page may be given in Spanish by the teacher if this will help. The Spanish is:

(First drawing) Hagan un retrato de un hombre. Háganlo lo mejor posible. Tengan cuidado de que el hombre esté entero y no solamente la cabeza y los hombros.

(Second drawing) Hagan un retrato de una mujer. Háganlo lo mejor posible. Tengan cuidado de que la mujer esté entera y no solamente la cabeza y los hombros.

SEPTEMBER TESTS - INSTRUCTIONS

> (Third drawing) Hagan ustedes un retrato de sí mismos. Háganlo lo mejor posible. Tengan cuidado de que el retrato esté completo y no solamente la cabeza y los hombros.

This test should be completed the first day. No time limits are prescribed, but it will not take more than 30 minutes. A rest period between drawings may be given.

Prueba de Habilidad General. This test is administered by a tape recording recorded in local Spanish by Luis Trujillo of Adams State College. In order to provide familiarity with responding to the tape, a pre-test exercise and pre-test ("Pre-Prueba") are provided. This schedule should be followed:

Testing Day 2 (after Goodenough Test on Day 1): Use "Tape Recorded Spanish Pre-Test Exercise" as directed on separate dittoed sheet. Time should not exceed 30 minutes. The children may color these pictures and take them home.

Testing Day 3: Use the "Pre-Prueba" (small size pupil sheet which begins with "Vocabulario Oral") with tape recorded directions. Pantomime the directions as they are given in Spanish on the tape. The directions begin with the first row of pictures drawn on the chalkboard ("pizarrón"). They say:

> "Look at this row of pictures." (Point to the pictures on the blackboard.) "Look at the house. Now look at the tree." (Point to the house and the tree on the blackboard.) "See, I mark the tree like this." (Draw a long diagonal line through the tree.)
>
> "Now look at your paper. Find the house. Put your finger on the house." (Pause.) "In the same row find the tree. Mark the tree as I did on the blackboard." (Demonstrate again. See that all comply.)

For the rest of the first page, pantomime by pointing to the correct line and item. Help the children as much as necessary. Play the tape over as much as needed. For the second page the directions say:

> "Now we are going to find the pictures that go together." (Point to the pictures on the blackboard.) "Look at the shoe, the hand, and the foot." (Point.) "Does the shoe go with the hand? No, we do not wear shoes on our hands. The shoe belongs to the foot. So we mark the foot to show that the shoe belongs to the foot." (Demonstrate.)
>
> "Now look at your paper. Find the shoe." (Pause.) "In the same row mark the foot to show that the shoe belongs to the foot." (See that all comply.)
>
> Etc.

SEPTEMBER TESTS - INSTRUCTIONS

After the row that begins with the kitten, the children do the rest of page 2 without directions from the tape. The teacher will need to stop the recorder after the sentence: "En cada fila miren el primer retrato (changed from dibujo) y busquen el que va con él." When all have finished, she will start the recorder again. It will say:

> "Now turn the paper over like this." (Demonstrate. See that all have page 3.)
>
> "Now we are going to look at a row of pictures and mark the picture that does NOT go with the others. Look at this row of pictures." (Point to the pictures on the blackboard.) "This is a cup, this is a cup, this is a cup, but this is not a cup. So we mark the chair like this to show that it does not go with the cups." (Demonstrate.)
>
> "Now look at your paper. Find the cups in the first row. Mark the chair to show that it does not go with the cups." (See that all comply.)
>
> Etc.

After the row that begins with the flower, the children do the rest of page 3 without directions from the tape. The teacher will need to stop the recorder after the sentence: "En cada fila marquen el retrato que no va con los otros." After all have finished, collect the papers. Do not score them or indicate to the children that some were right or wrong. It makes no difference at this point, as the objective is merely to get the children to respond to the directions. Do not give the papers back to the children. After the children have gone for the day and will know nothing about it, the papers may be discarded.

The tape should be left in the same position until the next day, when it will go on from this point for the Prueba.

Testing Day 4: Give the "Vocabulario Oral" and "Numero" sections of the Prueba de Habilidad General. Pages 1 and 2 of the English directions have been duplicated for you to follow. The tape ends just after number 20 of the Oral Vocabulary test, after the sentence: "Ahora volteen la pagina y doblenla hacia atras, asi." ("Now turn the page and fold it back like this.") At this point, the teacher will need to turn the tape over and start it again to play the second track. It is NOT necessary to rewind it in order to play the second track.

After the "Numero" test is completed (bottom of page 5) the tape will say: "Ahora volteen la pagina y doblenla hacia atras, asi. Pongan el lapiz sobre el librito." ("Now turn the page and fold it back like this. Lay your pencil on the booklet.") This completes the testing for Day 4. Stop the tape and collect the booklets.

Testing Day 5: Give the "Associacion" and "Classificacion" sections of the Prueba. Start the tape where it stopped the day before. Pages 9 and 10 of the English manual have been reproduced for you.

SEPTEMBER TESTS - INSTRUCTIONS

Thurstone Primary Perception Tests. Give both these tests on Testing Day 6. Follow the directions in the Manual. Note the time limit of three minutes for the Identical Forms Test.

Metropolitan Readiness Tests. Follow the directions in the Manual. Use the following schedule:

Testing Day 7: First sitting - Tests 1 and 2 (about 15 min.)
Second sitting - (later in the morning) Tests 3 and 4 (less than 15 min.)

Testing Day 8: First sitting - Tests 5 and 6 (about 20 min.)
Second sitting - Drawing a Man (about 10 min.)

Murphy-Durrell Diagnostic Reading Readiness Test. Follow the directions in the Manual. Use the following schedule:

Testing Day 9:	Part I of the Phonemes Test Letter Names Test	About 30 minutes in all
Testing Day 10:	Part II of Phonemes Test Learning Rate for Words Test	About 30 minutes in all

The Murphy-Durrell tests require a considerable familiarization and practice on the part of the teacher before the tests are given. The Manual should be read several times, and a "dry run" on teaching the words for the Learning Rate Test would be helpful. Note that arrangements will need to be made to remove the non-experimental group children for a short time about an hour after the words for the Learning Rate Test have been taught.

Pintner-Cunningham Primary Test. Follow the directions in the Manual. The entire test should be given on Testing Day 11, in one sitting.

Linguistic Capacity Index. Follow the directions in the Manual. Use the following schedule:

Testing Day 12: Pre-test and Vocabulary Section (20-30 minutes)

Testing Day 13: Phonology and Grammar Sections (about 20 minutes)

It may be helpful to darken the symbols on the symbol cards with a pen, felt pen, or pencil. A short review on the procedure with the symbol cards may be helpful at the start of Day 13, especially if any of the children missed Day 12.

In Case You Have Questions or Problems. Call Roy McCanne at the State Department of Education in Denver (222-9911, Extension 2253). Call collect and person to person. If you are unable to reach him, leave word with the secretary as to when and where you can be reached by return call.

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RESEARCH PROJECT 2734 RATING SCALES

ABILITY TO SPEAK ENGLISH

On a roster of each pupil, enter the letter A,B,C,D, or E corresponding to his estimated ability to speak English:

A. Speaks English, for his age level, like a native - with no foreign accent or hesitance due to interference of a foreign language.
B. Speaks English with a foreign accent, but with a high degree of fluency for his age level. Does not hesitate because he must search for English words and language forms.
C. Can speak English well enough for most situations met in school, but must make a conscious effort to avoid the language forms of a foreign language. Speaks English hesitantly in new situations.
D. Speaks English only in those stereotyped situations for which he has learned a few useful words and expressions.
E. Speaks no English other than words he has learned this school year.

ABILITY TO UNDERSTAND SPOKEN ENGLISH

On a roster of each pupil, enter 1,2,3,4, or 5 corresponding to his estimated ability to understand spoken English:

1. Understands spoken English as well as a native of his age.
2. Understands spoken English with relative ease in most situations, but occasionally needs help by repetitions, illustrations, or translation.
3. Understands phrases and simple connected sentences in English if the speaker speaks slowly and with a simplified vocabulary.
4. Understands spoken English only in stereotyped situations met often in the school day.
5. Understands only that spoken English he has been taught this school year.

Above rating scales adapted from J. Cayce Morrison, Developing a Program for Testing Puerto Rican Pupils in the New York City Public Schools (New York: Board of Education of the City of New York, 1959), pp. 14 and 15.

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RESEARCH PROJECT 2734 TAPE RECORDED SPANISH PRE-TEST EXERCISE

Spanish (as recorded on tape):

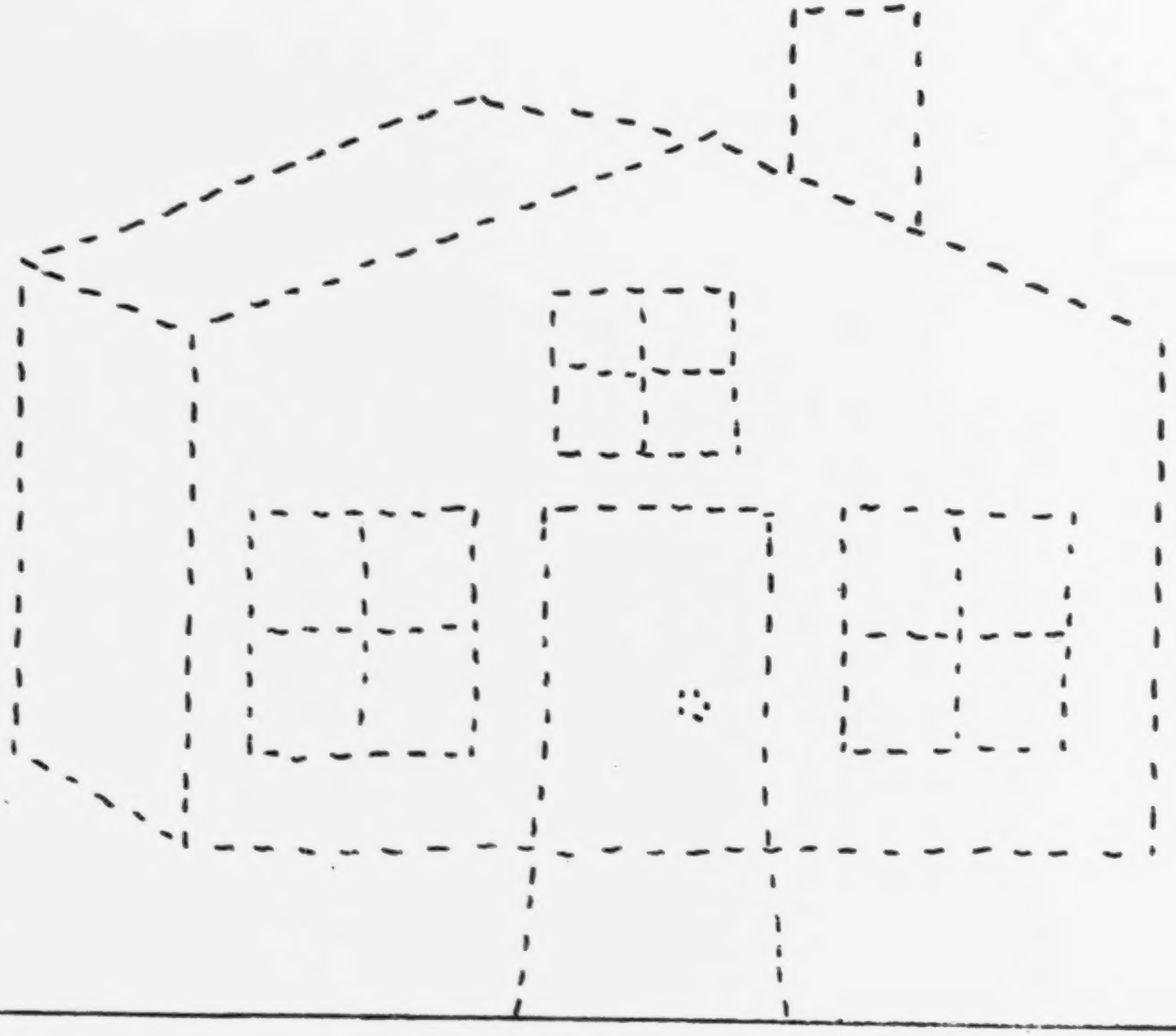
Buenos dias muchachos y muchachas. Hoy vamos a jugar con los lápices de colorear y el papel que la maestra les dará. Vamos a hacer unos retratos bonitos que se van allevar a casa con ustedes. Esto es lo que tienen que hacer: Pueden ver que unas marcas están hechos arriba y a los lados de sus retratos. Usen un color bonito para hacer las marcas oscuras. Luego hagan más marcas alrededor del retrato hasta que vayan alrededor de todo el retrato. Luego usen sus lápices de colorear para hacer líneas arriba de los puntos en su retratos a ver si pueden hacer un retrato bonito de una casa. Pueda que se parezca a la casa donde viven.

English:

Good morning boys and girls. Today we will have some fun with your crayons and a paper the teacher will give you. We will make a pretty picture which you may take home with you. Here is what to do: You can see that some marks are made at the top and sides of your picture. Use a pretty colored crayon to make the marks dark. Then make more marks around the picture until they go all the way around. Then use your crayons to make lines over the dots on your picture. See if you can make a nice picture of a house. Maybe it will look like the house where you live!

Directions:

This exercise is merely to help the children become familiar with tape recorded directions in Spanish. Pass out the papers and crayons before beginning to play the tape. As the tape is playing, pantomime the instructions in order to help the children understand. Use additional instructions of your own as necessary, either in Spanish or English. Play the tape over as many times as needed. The important thing is to give the children lots of praise and help them feel comfortable responding to the tape.



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READING RESEARCH PROJECT 2734 TESTS

WORD CHANGES IN PRUEBA DE HABILIDAD GENERAL
HC-1-CEs, NIVEL PRIMARIO

In the preparation of tape recorded directions for the administration of the Pre-Prueba and the Prueba, the following changes in words were made by Mr. Luis Trujillo, Instructor in English and Languages, Adams State College, Alamosa, Colorado. The changes were made in order to facilitate understanding by native Colorado Spanish-speaking children.

Note: Recurring changes are listed only once.

Page	Item	English	Original Spanish	Changed to
2	Prac. Ex.	pictures	dibujos	retratos
2	Prac. Ex.	So	Por lo tanto	Por eso
2	1	booklet	folleto	librito
2	3	bird	pajaro	pajarito
2	Direc.	Turn (the Pg)	Den vuelta a	Volteen
3	10	Mark the carpenter.	(Inadvertently omitted)	Marquen el carpintero.
4	22	in which	en el cual	en el que
9	Prac. Ex.	to show	indicar	ensenar
9	3	broken (stone)	rota	quebrada
9	4	Begin.	Empiecen.	Comiencen.
10	top	Stop.	Basta.	Bueno. Ya es todo.
10	Intro	(it is) Diff.	distinta	diferente

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RESEARCH PROJECT 2734 GROUP TESTS FOR MAY, 1965, REVISION II

Note: All group tests are to be given by the classroom teacher. Non-experimental group children should be removed from the room during testing, except for the Written Language Measure. Day numbers refer to the number of instructional days after the final test given in the fall.

Order	Day	Sitting	Minutes	Test and Source
1	140	1	30	An Inventory of Reading Attitude, San Diego County Schools
				Metropolitan Readiness Tests, Standardization Edition Form A; Harcourt, Brace and World, Inc.:
2-3	141	1	15	Test 1: Word Meaning; and Test 2: Listening
4-5		2	15	Test 3: Matching; and Test 4: Alphabet
6		3	10	Test 6: Copying (may be given in PM)
				Murphy-Durrell Diagnostic Reading Readiness Test, Revised; Harcourt, Brace and World, Inc.:
7	142	1	15	Phonemes Test, Part I
8		2	20	Phonemes Test, Part II
				Stanford Achievement Test, Primary I Battery, Form X Harcourt, Brace and World, Inc.:
9	143	1	22	Test 1: Word Reading
10	144	1	30	Test 2: Paragraph Meaning
11	145	1	20	Test 3: Vocabulary
12		2	20	Test 4: Spelling
13	146	1	32	Test 5: Word Study Skills
				Test of Reading, R-1-CE; Guidance Testing Associates:
14	147	1	13	Part I: Vocabulary
15		2	15	Part II: Comprehension

GROUP TESTS FOR MAY, 1965, REVISION II

Order	Day	Sitting	Minutes	Test and Source
				Linguistic Capacity Index; Fresno State College:
16-17	148	1	25	Pre-Test, Vocabulary, and Phonology Sections
18		2	10	Grammar Section
19	149	1	40	Written Language Measure; U.S.O.E. Cooperative Research Project (Note: Entire class may take this test)

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RESEARCH PROJECT 2734 GROUP TESTS FOR MAY

GENERAL INSTRUCTIONS

Schedule. We will follow the schedule outlined on the sheet: "Group Tests for May, 1965, Revision II." A separate set of directions will be sent for the individual tests to be given by the principal. The individual tests should be given on or shortly after day #147 on the group test schedule, but at a different time in the morning. All tests should be given as soon after school begins in the morning as is practical.

The order of group tests should not be changed, but testing should be delayed a day in case of poor testing conditions (excessive absence, field day, excessive noise or odors, absence of the regular teacher, tests didn't arrive, etc.).

Classroom Conditions. The regular classroom teacher should give all group tests. Non-experimental group children should be taken from the room during the testing time, except for the Written Language Measure which may be given to the entire class. Children should be spread out in the room so that they do not get help from each other on the tests. A "Testing - Do Not Disturb" sign should be hung on the outside of the classroom door.

A pleasant, relaxed atmosphere should prevail. Children should not be told that their promotion to second grade (or any other reward) depends upon how well they do on the tests. Rather, the tests should be presented as an opportunity to show what they have learned in reading during the first grade.

Make-ups. Every effort should be made to give make-up tests to children who are absent during the group test session. If possible, make-ups should be given within a week of the original date. Make-up test booklets should be marked "MAKE-UP" in large printing at the top, and the date of the test should be recorded as the date of the make-up.

Information Requested. Because the test booklets will be sent to the publisher for further analysis at the completion of our study, it is important that all the requested information be filled out on each test booklet. We must have the full name of each pupil and teacher, school, dates, etc. Teachers are asked to fill out the booklet cover themselves before the test is given.

Mailing. Large, stamped mailing envelopes are provided, similar to the ones in which the tests are sent to the teachers. Tests and manuals of directions should be mailed to the Director as soon as practicable after they are completed. All scoring will be done by the Director.

GROUP TESTS FOR MAY: SPECIAL INSTRUCTIONS

Rating Scales. The rating scales, "Ability to Speak English" and "Ability to Understand Spoken English" are provided on one sheet. Teachers are asked to make three separate ratings of each child beginning on the 140th day and ending on the 149th day. Then combine the ratings in such a way as to indicate the best possible judgement of the child's relative ability in the two skill areas. Indicate the one best judgement on a roster of the experimental group children, using letters and numbers as directed on the "Rating Scales" sheet. Teachers are asked not to refer to last fall's rating scale judgements before making the new ratings.

An Inventory of Reading Attitude. The teacher should read the front page to the children and answer any questions about how to circle the answer. Pencils should be used for marking answers. Emphasize that you want honest answers.

After completing the front page, have the pupils turn the paper over to the back page. Read the questions to them, allowing time to circle their choice of "Yes" or "No." Avoid any comments or inflections which might influence their answers. See that no children copy their answers from their neighbors, or are ahead or behind as the questions are read aloud.

Metropolitan Readiness. Read the directions and practice the items ahead of time. Have the pupils use red or orange crayons for marking. Provide rest or play periods as needed between the tests, and between sittings 1 and 2. Test 6 may be given in the afternoon as an entirely separate sitting. We will not use the "Numbers" or "Draw-a-Man" tests.

Murphy-Durrell. Read the directions and practice all items ahead of time. Note that the sounds of letters, not letter names, are used in the items. Have the children use blue or green crayons for marking. Colored markers for the children and words written on the chalkboard will be needed prior to testing. No word cards are needed as we will not use the Letter Names or Learning Rate tests. Provide a rest or play period between sittings for as long a time as needed.

Stanford Achievement Test. Read the directions and practice the Form X items for Tests 3, 4, and 5 ahead of time for accurate pronunciation and intonation. Pencils should be used. The Stanford are the most difficult tests; if the children become discouraged, explain that some tests have to be very hard in order to test the best readers. We will not use the Arithmetic Test.

Test of Reading. Read the directions ahead of time. Pencils should be used.

Linguistic Capacity Index. Read directions, prepare symbol cards, and practice with the symbol cards ahead of time. Colored crayons may be used, and they help in the scoring.

GROUP TESTS FOR MAY: SPECIAL INSTRUCTIONS

Written Language Measure. Read the directions carefully and gather the needed materials ahead of time. The entire class may take this test, but only the experimental group papers should be sent to the Director. Be sure the pupil's name, teacher's name, and date are on each paper.

FIRST GRADE WRITTEN LANGUAGE MEASURES
USOE Cooperative Research Project

DIRECTIONS TO THE CLASSROOM TEACHER

General Information

You are being asked to obtain two writing samples from each pupil in your classroom. We wish to emphasize the necessity of following the directions and procedures exactly.

As you realize, many other teachers throughout the nation will also be asked to obtain writing samples from their pupils. It is necessary, therefore, that those samples be obtained in all classrooms at approximately the same time and by following the same directions.

You are requested to obtain the first writing sample (Restricted Stimulus Measure) on Day #149.

The second writing sample (Unique Stimulus Measure) should be obtained on Day #150.

DIRECTIONS --- RESTRICTED STIMULUS MEASURE

Classroom Situation

No attempt should be made to enrich your normal room display through the use of word lists, pictures, dictionaries, etc. The classroom conditions should approximate those normally found in your daily writing activities.

Materials

The writing paper and pencils customarily used in your classroom should be used in obtaining this sample.

Identification

The pupil's name, teacher's name, and the school should be indicated on each pupil's paper.

Teacher Directions to the Pupils

You are requested to spend a minimum amount of time motivating the class to write a story. This motivation should consist of:

1. General encouragement to the whole class that you are interested in reading their stories and that they are to use their very best handwriting.

2. Additional encouragement to individual pupils by such directions as:

DIRECTIONS --- RESTRICTED STIMULUS MEASURE

> "I'm sure you have an interesting story you would like to write for me today, Billy."
>
> "Sally, I'll bet you have a really good story you would like to write for me."
>
> "I liked that story you wrote for me last week, Mary. I'm sure you could write another one for me. Let's try."

This additional motivation should be of a general type and should be directed toward getting the pupils to write rather than in providing them with specific ideas.

It is particularly cautioned that no specific titles be presented, nor should pictures or other stimuli be employed.

Other Procedures

No spelling help should be provided during the writing period.

If pupils request spelling assistance, they should be told to try to spell the word and then encouraged to proceed.

If pupils normally use a simplified dictionary or write from displayed flashcards or use a speller, such practices may be allowed.

Under no circumstances, however, should you correct misspellings, give ideas, or assist the pupil beyond the point of general encouragement.

Time Limit

Following the heading of the paper, 20 minutes should be allowed for the pupils to finish their stories. Papers of pupils who finish early should be inconspicuously collected and a coloring exercise or similar silent activity should be provided for the remainder of the 20 minutes.

Written Sample Identification

At the end of 20 minutes, all stories should be collected, packaged, and clearly labeled:

RESTRICTED STIMULUS SAMPLES (Date________________)

You are not to correct these stories; they will be corrected and scored by the Project Director's Staff who will appraise you of the correction procedures should you desire this information.

DIRECTIONS --- UNIQUE STIMULUS MEASURE

This second writing sample should be obtained on the date specified by your Project Director.

DIRECTIONS --- UNIQUE STIMULUS MEASURE

The purpose of this measure is to give your pupils an opportunity to write stories using a motivational stimulus with which they are familiar.

Materials

The writing paper and pencils customarily used in your classroom should be used for obtaining this sample.

Identification

The pupil's name, teacher's name, and the school should be indicated on each pupil's paper.

Teacher Directions to the Pupils

You may spend as much time as you normally would spend in motivating your pupils to write a story. The amount of time which you spend on this motivational activity should be indicated on the Unique Stimulus Checklist in the space provided.

You may use whatever motivational devices you normally use in encouraging your pupils to write stories.

The research value of these samples depends on your ability to maintain a normal classroom writing situation and then to briefly, but accurately, describe the procedures which you employed.

We are not looking for a "special" kind of writing or a "special" story. We are hopeful, however, of obtaining (according to the ability levels of your pupils) phrases, sentences, or stories which would be typical of those written by your pupils.

Other Procedures

No teacher spelling help should be provided during the writing period. Pupils should be encouraged to try to spell requested words and urged to continue writing.

Spelling aids used by pupils in regular writing periods may be used; use of aids of this kind should be indicated on the Unique Stimulus Checklist.

Time Limit

Following the heading of the paper, 20 minutes should be allowed for the pupils to finish their stories. Papers of pupils who finish early should be inconspicuously collected and a coloring exercise or similar silent activity should be provided for the remainder of the 20 minutes.

DIRECTIONS --- UNIQUE STIMULUS MEASURE

Written Sample Identification

At the end of 20 minutes, all stories should be collected, packaged, and clearly labeled:

UNIQUE STIMULUS SAMPLES (Date________________)

You are not to correct these stories; they will be corrected and scored by the Project Director's Staff who will appraise you of the correction procedures should you desire this information.

Attach the Unique Stimulus Checklist to the writing samples and forward to the Project Director in the manner specified.

UNIQUE STIMULUS CHECKLIST
USOE Cooperative First Grade Research Project

Teacher's Name ____

School ________________________ City ____________ State ______

Date __________________________

Briefly describe the motivation (picture, topic sentence, title, etc.) which you provided for this writing lesson. Indicate the amount of time spent in this motivational activity: ________ minutes.

Please check in the appropriate column(s):

	Available to pupils during the activity	Used by the pupils during the activity
Dictionaries	______	______
Student-developed dictionaries	______	______
Displayed flashcards	______	______
Alphabet	______	______
Basal readers	______	______
Object labels	______	______
Experience charts	______	______
Spellers	______	______
Bulletin boards (Please specify the themes of your bulletin boards:)	______	______

Please specify other writing aids:

COLORADO STATE DEPARTMENT OF EDUCATION
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RESEARCH PROJECT 2734 FINAL TEACHER QUESTIONNAIRE

Directions: Please pick a time and place when you are refreshed and can relax without interruption or hurry. The results of this questionnaire will be very important to the Research Project. You were chosen to serve as an expert for the study; and now, after trying out the experimental approach for a year, we need your expert appraisal. You will not be quoted by name from this questionnaire, but quotes will be reported by experimental group in the final report. Please make your comments in good English, suitable for publication. Feel free to say whatever you feel would be of most help to other teachers in an honest appraisal of the experimental method you used. Please return one copy of this questionnaire at your earliest convenience. Thank you.

Name ______________________________ Date ____________________

Code (Circle only one for each question):

A. Experimental method and materials accomplished this purpose better than any others I have ever used.
B. Experimental method and materials did very well, about as well as the best of others I have used.
C. Experimental method and materials were average.
D. Experimental method and materials were below average, about as poor as the poorest of others I have used.
E. Experimental method and materials were the poorest I have ever used for this purpose, and did not accomplish it.

Each item below is a skill involved in first grade reading, taken from the Skill Book Outline. Please apply the code above and rate the experimental method and materials you used as to how well the skill was developed. Count only the activities and materials you used in the experimental method time, with a reasonable allowance for activities you carried on in other time as a direct result of the experimental method. Do not count separate phonics materials, spelling materials, TV programs, etc. Refer to your copy of the Skill Book Outline for more details on the meaning of the objective, if needed.

1. Phonological skills of transition from Spanish, correcting errors in pronouncing English consonants A B C D E

2. Phonological skills of transition from Spanish, correcting errors in pronouncing English vowels A B C D E

3. Phonological skills of transition from Spanish, learning the sound patterns of English sentences A B C D E

4. Grammatical skills of transition from Spanish, learning basic English sentence patterns(structures) A B C D E

RESEARCH PROJECT 2734 - FINAL TEACHER QUESTIONNAIRE

____
(Name)

5. Grammatical skills of transition from Spanish, learning correct English language patterns (possessives, verb tenses, avoiding double negatives, word order, use of pronouns, etc.) A B C D E
6. Readiness skills, physical (motor coordination, etc.) A B C D E
7. Readiness skills, enriching experience background A B C D E
8. Readiness skills, developing interests A B C D E
9. Readiness skills, developing auditory discrimination A B C D E
10. Readiness skills, developing visual discrimination A B C D E
11. Readiness skills, developing left-to-right progression A B C D E
12. Readiness skills, developing attention span A B C D E
13. Readiness skills, developing oral vocabulary A B C D E
14. Readiness skills, developing oral comprehension A B C D E
15. Readiness skills, telling stories A B C D E
16. Word skills, use of context clues A B C D E
17. Word skills, use of configuration (developing sight vocabulary) A B C D E
18. Word skills, learning capital and small letters A B C D E
19. Word skills, hearing and recognizing consonants (including blends) in initial position A B C D E
20. Word skills, hearing and recognizing common ending phonograms A B C D E
21. Word skills, hearing and recognizing rhyming phonograms A B C D E
22. Word skills, hearing and recognizing short vowels A B C D E
23. Word skills, hearing and recognizing long vowels A B C D E
24. Word skills, recognizing the number of syllables A B C D E
25. Word skills, putting phonograms together to make words A B C D E

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____
(Name)

26. Word skills, hearing and recognizing inflectional endings A B C D E
27. Word skills, hearing and recognizing compound words A B C D E
28. Word skills, hearing and recognizing contractions A B C D E
29. Word skills, knowing alphabetical order A B C D E
30. Word skills, using picture dictionary A B C D E
31. Word skills, using word lists or word cards A B C D E
32. Word skills, selecting the right meaning of a word A B C D E
33. Comprehension skills, following directions A B C D E
34. Comprehension, using punctuation as an aid to meaning A B C D E
35. Comprehension, following sequence of story A B C D E
36. Comprehension, visualizing characters, events A B C D E
37. Interpretation, classifying things as relevant or irrelevent, consistent of inconsistent, etc. A B C D E
38. Interpretation, distinguishing fact from fantasy A B C D E
39. Interpretation, finding main idea or moral A B C D E
40. Interpretation, predicting outcomes A B C D E
41. Interpretation, using parts of a story for specific purposes A B C D E
42. Interpretation, asking relevant questions A B C D E
43. Interpretation, drawing conclusions from evidence A B C D E
44. Interpretation, relating story to own experience A B C D E
45. Time orientation, relating past, present, future A B C D E
46. Time orientation, being punctual in work habits A B C D E
47. Time orientation, planning for the future A B C D E
48. Time orientation, accepting change in routine A B C D E

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____
(Name)

49. Space orientation, understanding spacial relationships in stories A B C D E

50. Space orientation, learning how to describe spacial relationship (names of places, addresses, etc.) A B C D E

51. Social orientation, understanding roles of family members A B C D E

52. Social orientation, understanding roles of school people (pupils, teachers, principals, etc.) A B C D E

53. Social orientation, learning to get along with others A B C D E

54. Societal orientation, understanding the need for school A B C D E

55. Other (specify) ______________________________ A B C D E

56. Other (specify) ______________________________ A B C D E

57. Overall rating of method and materials A B C D E

Now, please go back over each item except #57, and circle the number (on the left) of each skill for which you feel that the teaching method you used (basal reader, TESL, or language-experience) could accomplish the objective very well with better materials in your classroom. This rating will have no relationship to the letter circled on the right. You are to rate the method without regard to the materials used this year. Your circle on the left will be taken to mean that you think you could use the method to develop this skill very well. No circle on the left will be taken to mean that you think another method would develop the skill considerably better in your classroom.

Please give your over-all rating of the method without regard to the materials:

A B C D E

Please give your over-all rating of the quality of the materials used this year (counting only the teacher's guides and units in the language-experience approach; counting pupil and teacher materials in basal reader and TESL):

A B C D E

RESEARCH PROJECT 2734 - FINAL TEACHER QUESTIONNAIRE

____
(Name)

Please list five strengths of the method (without regard to materials) in order of importance (amplify your comments on the back if you wish):

1. ______________________________

2. ______________________________

3. ______________________________

4. ______________________________

5. ______________________________

Please list five weaknesses of the method (without regard to materials) in order of importance (amplify on back if desired):

1. ______________________________

2. ______________________________

3. ______________________________

4. ______________________________

5. ______________________________

Please list five strengths of the materials (taken in the context of the method) in order of importance (amplify on back if desired):

1. ______________________________

2. ______________________________

3. ______________________________

4. ______________________________

5. ______________________________

RESEARCH PROJECT 2734 - FINAL TEACHER QUESTIONNAIRE

____
(Name)

Please list five weaknesses of the materials (taken in the context of the method) in order of importance (amplify on back if desired):

1. ______________________________

2. ______________________________

3. ______________________________

4. ______________________________

5. ______________________________

Will you continue to use the experimental method substantially by itself?	Yes	No
Will you use the experimental method in combination with another next year?	Yes	No
Will you use the experimental materials extensively in the future?	Yes	No

What was the average number of minutes you spent each week in preparation time for the experimental reading class? ______________

Please add any comments which you feel would be helpful to other teachers of Spanish-speaking children, based upon your experience both before and during Research Project 2734:

____

____

____

____

____

RESEARCH PROJECT 2734 - FINAL TEACHER QUESTIONNAIRE

____
(Name)

APPENDIX F

RAW SCORES

There were approximately 35,000 raw scores (105 variables for 333 subjects) collected for the variables for which means and standard deviations were given in Table IV in Chapter V. Rather than record this data here, reference is made to two institutions, both of which have the data filed on IBM cards in usable form, with an explanation of the format. The institutions are: (1) The Coordinating Center for First Grade Reading Studies, College of Education, University of Minnesota, Minneapolis, Minnesota; and (2) The Migrant Education Section, Division of Research and Development, Colorado State Department of Education, Denver, Colorado.